



State of New Jersey

CHRIS CHRISTIE
Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code – 401-02B

BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

Water Pollution Management Element
Bureau of Surface Water Permitting
P.O. Box 420 – 401 E State St
Trenton, NJ 08625-0420
Phone: (609) 292-4860 / Fax: (609) 984-7938

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

7010 1870 0001 4760 9238

December 20, 2013

Frank Pestana, Executive Director
North Bergen Township MUA
6200 Tonnelle Ave
North Bergen, NJ 07047-3312

Re: Draft Surface Water Revoke & Reissue Permit Action
Categories: A – Sanitary Wastewater
CSM – Combined Sewer Management
NJPDES Permit No. NJ0029084
WOODCLIFF STP
North Bergen Township, Hudson County

Dear Mr. Pestana:

Enclosed is a **Revoke and Reissue** draft New Jersey Pollutant Discharge Elimination System (NJPDES) permit action identified above which has been issued in accordance with N.J.A.C. 7:14A. The final permit issued by the Department on January 7, 2010 and effective February 1, 2010 is being revoked and reissued in order to incorporate updated conditions for Combined Sewer Overflow (CSO) Management into the permit.

Notice of this revoke and reissue draft permit action will appear in the *Star Ledger* and in the January 8, 2014 *DEP Bulletin*. The *DEP Bulletin* is available on the internet at <http://www.state.nj.us/dep/bulletin>. In accordance with N.J.A.C. 7:14A-15.10(c)1i, the public comment period will close sixty (60) days after its appearance in the newspaper or the *DEP Bulletin*, whichever is later.

A non-adversarial public hearing has been scheduled on February 12, 2014, from 3:00 pm to 5:00 pm or until the end of testimony (whichever comes first), at Hackensack City's Council Chambers, located at 65 Central Avenue, Hackensack, NJ 07601, to provide an opportunity for interested persons to present and submit information on the proposed action.

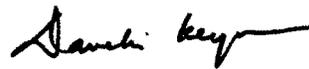
As detailed in the *DEP Bulletin* and aforementioned newspaper written comments must be submitted in writing to Pilar Patterson, Chief, Mail Code 401 - 02B, Division of Water Quality, Bureau of Surface Water Permitting, P.O. Box 420, Trenton, NJ 08625 by the close of the public comment period. All persons, including the applicant, who believe that any condition of this draft permit action is inappropriate or that the Department's tentative decision to issue this draft permit action is inappropriate,

must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period.

The Department will respond to all significant and timely comments upon issuance of the final document. The permittee and each person who has submitted written comments will receive notice of the NJDEP's final decision to issue, revoke, or redraft the document.

If you have questions or comments regarding the surface water sections of this draft permit action, please contact Teresa Guloy or Dwayne Kobesky at (609) 292-4860. If you have questions or comments regarding the combined sewer sections of this draft permit action, please contact Andy Doyle at (609) 292-4860.

Sincerely,



Daveki Keymoore
Supervising Environmental Specialist
Bureau of Surface Water Permitting

Enclosures

c: Permit Distribution List

Masterfile #: 37627; PI #: 46705

Table of Contents

This permit package contains the items listed below:

- 1. Cover Letter**
- 2. Table of Contents**
- 3. Public Notice**
- 4. NJPDES Permit Authorization Page**
- 5. Fact Sheet / Statement of Basis**
- 6. USGS Topographic Map**
- 7. Process Flow Diagram**
- 8. CSO USGS Topographic Map**
- 9. Part I – General Requirements: NJPDES**
- 10. Part II – General Requirements: Discharge Categories**
- 11. Part III – Limits and Monitoring Requirements**
- 12. Part IV – Specific Requirements: Narrative**
- 13. Appendix A: RWBR Approval Status List**
- 14. Appendix B: Design Standards for Storm Drain Inlets**

New Jersey Department of Environmental Protection
 Division of Water Quality
 Bureau of Surface Water Permitting

PUBLIC NOTICE

The New Jersey Department of Environmental Protection (NJDEP) is hereby giving Notice in accordance with N.J.A.C. 7:14A-15.10(d) of New Jersey Pollutant Discharge Elimination System (NJPDES) permit actions for eight (8) permittees, a public hearing on those permits as well as a request for input on a related matter as described below.

The NJDEP proposes to renew the Bergen County Utilities Authority-Little Ferry Sewage Treatment Plant's individual Discharge to Surface Water (DSW) Category A Permit NJ0020028 as well as to incorporate updated Combined Sewer Overflow (CSO) permit requirements. Also, NJDEP proposes to issue individual CSO permits for communities in BCUA's sewer service area that have combined sewer outfalls. These communities are: Hackensack, Ridgely Park and Fort Lee. The NJDEP proposes to revoke the authorization under the existing general CSO permit and issue an individual permit to Hackensack (NJ0108766) and Ridgely Park (NJ0109118) to authorize discharges from their CSOs. The NJDEP also proposes to renew the existing individual CSO permit for Fort Lee (NJ0034517).

The NJDEP proposes to revoke and reissue North Bergen Township Municipal Utilities Authority-Woodcliff Sewage Treatment Plant's individual Discharge to Surface Water (DSW) Category A Permit NJ0029084 in order to incorporate updated CSO permit requirements. Also, NJDEP proposes to issue an individual CSO permit for Guttenberg (NJ0108715) since Guttenberg has a combined sewer outfall and is within North Bergen-Woodcliff's sewer service area. The NJDEP proposes to revoke Guttenberg's authorization under the existing general CSO permit and issue an individual permit to authorize discharges to from that CSO.

The NJDEP proposes to revoke and reissue the individual Discharge to Surface Water (DSW) Category A Permit for the North Hudson Sewer Authority-Adams Street Sewage Treatment Plant (NJ0026085), and proposes to redraft the renewal permit for the North Hudson Sewer Authority-West New York Sewage Treatment Plant (NJ0025321) as well as to incorporate updated CSO permit requirements.

The above actions are executed in accordance with N.J.A.C. 7:14A-1 et seq., and by authority of the Water Pollution Control Act at N.J.S.A. 58:10A-1 et seq., for the following discharges:

<u>Applicants</u>	<u>Facility</u>
Bergen County Utilities Authority PO Box 9 – Foot of Mehrhof Rd Little Ferry, NJ 07643	Bergen County Utilities Authority STP Little Ferry Water Pollution Control Facility 298 Mehrhof Rd Little Ferry, NJ 07643
City of Hackensack 65 Central Ave Hackensack, NJ 07602	City of Hackensack CSOs 65 Central Ave Hackensack, NJ 07602
Ridgely Park Village 234 Main St Ridgely Park, NJ 07660	Ridgely Park Village CSOs 234 Main St Ridgely Park, NJ 07660
Fort Lee Borough 309 Main St Fort Lee, NJ 07024	Fort Lee Borough CSOs 309 Main St Fort Lee, NJ 07024
North Bergen Township MUA 4223 Kennedy Blvd North Bergen, NJ 07047	North Bergen Township MUA-Woodcliff STP 4223 Kennedy Blvd North Bergen, NJ 07047

Town of Guttenberg 6808 Park Avenue Guttenberg, NJ 07093-9991	Town of Guttenberg CSO 6808 Park Avenue Guttenberg, NJ 07093-9991
North Hudson Sewerage Authority 1600 Adams Street Hoboken, NJ 07030	North Hudson Sewerage Authority – River Road Wastewater Treatment Plant 6400 Anthony M Defino Way West New York Town, NJ 07030
North Hudson Sewerage Authority 1600 Adams Street Hoboken, NJ 07030	North Hudson Sewerage Authority – Adams Street Wastewater Treatment Plant 1600 Adams Street Hoboken, NJ 07030

Combined Sewer Overflows are discharges from Combined Sewer Systems (CSS). CSSs are sewers that were designed many decades ago to collect rainwater and snowmelt runoff, domestic sewage, and industrial wastewater in the same pipe. CSSs are no longer permitted in New Jersey for new communities, but many older cities in the State continue to operate existing CSSs. Most of the time, the CSSs transport all wastewater to a sewage treatment plant, where it is treated and then discharged to a water body. However, during periods of rainfall or snowmelt, the wastewater volume in a CSS can exceed the hydraulic capacity of the sewer system or treatment plant. For this reason, CSSs were designed to overflow during these periods and discharge excess wastewater directly from CSOs to nearby streams, rivers, or other water bodies prior to reaching the sewage treatment plant.

NJDEP has historically been regulating the majority of discharges from CSOs through authorizations under a Master General Permit NJ0105023 and others through individual permits, consistent with the National Policy for CSO Controls, N.J.A.C. 7:14A-11.12 Appendix C. NJDEP has determined that it is more appropriate to regulate all CSO discharges under individual permits in order to address the site-specific regulatory requirements of each of the permittees and to promote better coordination of a Long Term Control Plan (LTCP) among all permittees contributing to the hydraulically connected systems.

Bergen County Utilities Authority Little Ferry Sewage Treatment Plant

The existing facility discharges treated, disinfected, domestic wastewater with industrial contribution into the Hackensack River, classified as SE2(C2) waters. The Hackensack River is located within the NY/NJ Harbor. The existing facility has a NJPDES flow value of 94 million gallons per day (MGD) and currently discharges a monthly average flow of approximately 79.8 MGD. The loading effluent limitations proposed in this permit for CBOD5 and TSS from November thru April are based on a flow of 84.28 MGD, consistent with the NJPDES/permit modification dated March 25, 2005. All other loading limitations are based on a flow of 75 MGD.

Modification provisions as cited in the permit for monitoring frequency reduction may be initiated in accordance with the provisions set forth in Part IV of the permit and upon written notification from the Department.

Hackensack City CSOs

Hackensack City currently discharges combined sewage from two (2) active CSO outfalls which have solids/floatables removal equipment installed just prior to the discharge. These CSO outfalls discharge into the Hackensack River which is classified as SE1(C2) waters and are located within the NY/NJ Harbor.

Ridgefield Park Village CSOs

Ridgefield Park Village currently discharges combined sewage from six (6) active CSO outfalls which have solids/floatables removal equipment installed just prior to the discharge. These CSO outfalls discharge into the Hackensack River, which is classified as SE1(C2) waters, and Overpeck Brook, which is classified as SE2(C2) waters. Both are located within the NY/NJ Harbor.

Fort Lee Borough CSOs

Fort Lee Borough currently discharges combined sewage from two (2) active CSO outfalls which have solids/floatables removal equipment installed just prior to the discharge. These CSO outfalls discharge into the Hudson River which is classified as SE2(C2) waters and are located within the NY/NJ Harbor.

North Bergen Township Municipal Utilities Authority-Woodcliff

The existing facility discharges treated, disinfected, domestic wastewater with industrial contribution into the Hudson River, classified as SE2(C2) waters. The existing facility has a NJPDES flow value of 2.91 million gallons per day (MGD) and currently discharges a monthly average flow of approximately 3.14 MGD. This action proposes effluent limitations based on a flow of 2.91 MGD.

Modification provisions as cited in the permit for monitoring frequency reduction may be initiated in accordance with the provisions set forth in Part IV of the permit and upon written notification from the Department.

Guttenberg Town CSOs

Guttenberg Town currently discharges combined sewage from one (1) active CSO outfall which has solids/floatables removal equipment installed just prior to the discharge. This CSO outfall discharges into the Hudson River which is classified as SE2(C2) waters and is located within the NY/NJ Harbor.

North Hudson Sewerage Authority-River Road Wastewater Treatment Plant

The existing facility discharges treated, disinfected, domestic wastewater with industrial contribution into the Hudson River via outfall DSN001A. The Hudson River is classified as SE2(C2) waters and is located within the NY/NJ Harbor. The existing facility has a NJPDES permitted flow value of 10 million gallons per day (MGD) and currently discharges a monthly average flow of approximately 9.54 MGD. This action proposes effluent limitations based on a flow of 10 MGD. This individual permit also authorizes the NHSA- River Road WWTP to operate a combined sewer system (CSS) for the collection and conveyance of wastewater. The untreated wastewater from the CSS is discharged to the Hudson River classified as SE2(C2) via two (2) combined sewer overflow (CSO) points.

Modification provisions as cited in the permit for monitoring frequency reduction may be initiated in accordance with the provisions set forth in Part IV of the permit and upon written notification from the Department.

North Hudson Sewerage Authority-Adams Street Wastewater Treatment Plant

The existing facility discharges treated, disinfected, domestic wastewater with industrial contribution into the Hudson River via outfall DSN001A. The Hudson River is classified as SE2(C2) waters and is located within the NY/NJ Harbor. The existing facility has a NJPDES flow value of 20.8 million gallons per day (MGD) and currently discharges a monthly average flow of approximately 12.7 MGD. This action proposes effluent limitations based on a flow of 20.8 MGD. This individual permit also authorizes the NHSA-Adams Street to operate a combined sewer system (CSS) for the collection and conveyance of wastewater. The untreated wastewater from the CSS is discharged to the Hudson River classified as SE2(C2) via eight (8) combined sewer overflows.

Modification provisions as cited in the permit for monitoring frequency reduction may be initiated in accordance with the provisions set forth in Part IV of the permit and upon written notification from the Department.

These above mentioned draft NJPDES permit actions have been prepared for these facilities based on the administrative record filed at the NJDEP, 401 East State Street, Trenton, New Jersey 08625. Copies of the fact sheets which describe in more detail the principal facts and significant considerations examined during the preparation of the draft permit, and the draft permits are posted on NJDEP's website at <http://www.nj.gov/dep/dwq/cso.htm>. Draft documents are available for inspection, by appointment, Monday through Friday, between 8:30 A.M. and 4:00 P.M. Appointment for inspection and copies (for a nominal charge) may be requested through the Office of Record Access at (609) 341-3121 or www.nj.gov/dep/opra.

A non-adversarial public hearing has also been scheduled for these eight (8) permits on February 12, 2014, from 3:00 pm to 5:00 pm, or until the end of testimony (whichever comes first) at the City of Hackensack's City Council Chambers at 65 Central Avenue, Hackensack, NJ 07661.

Written comments on these proposals must be submitted in writing to Pilar Patterson, Chief, or Attention: Comments on Public Notice, specifically noted as comments on one or more of the eight(8) permits stated above, Division of Water Quality, Mail Code: 401-02B, Bureau of Surface Water Permitting, P.O. Box 420, Trenton, NJ 08625 by the close of the public comment period, which will close sixty calendar days after publication of this notice in the newspaper or the January 8, 2014 *DEP Bulletin*, whichever is later. All persons, including the applicant, who believe that any condition of this draft document is inappropriate or that the Department's decision to issue this draft document is inappropriate, must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period.

The NJDEP will respond to all significant and timely comments upon issuance of the final document. The permittee and each person who has submitted written comments, or oral comments at the public hearing, will receive notice of the Department's permit decision.



NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

The New Jersey Department of Environmental Protection hereby grants you a NJPDES permit for the facility/activity named in this document. This permit is the regulatory mechanism used by the Department to help ensure your discharge will not harm the environment. By complying with the terms and conditions specified, you are assuming an important role in protecting New Jersey's valuable water resources. Your acceptance of this permit is an agreement to conform with all of its provisions when constructing, installing, modifying, or operating any facility for the collection, treatment, or discharge of pollutants to waters of the state. If you have any questions about this document, please feel free to contact the Department representative listed in the permit cover letter. Your cooperation in helping us protect and safeguard our state's environment is appreciated.

Permit Number: NJ0029084

Draft: Surface Water Revoke & Reissue Permit Action

Permittee:

NORTH BERGEN TWP MUA
6200 TONNELLE AVE
North Bergen, NJ 07047-3312

Co-Permittee:

Property Owner:

NORTH BERGEN TWP
4233 KENNEDY BLVD
North Bergen, NJ 07047

Location Of Activity:

WOODCLIFF STP
7117 RIVER RD
North Bergen, NJ 07047

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
A -Sanitary Wastewater CSM -Combined Sewer Management			

**By Authority of:
Commissioner's Office**

DEP AUTHORIZATION
Pilar Patterson, Chief
Bureau of Surface Water Permitting
Division of Water Quality

(Terms, conditions and provisions attached hereto)

Division of Water Quality

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Surface Water Permitting

FACT SHEET

Masterfile #: 00037627

PI #: 46705

This fact sheet sets forth the principle facts and the significant factual, legal, and policy considerations examined during preparation of the draft permit. This action has been prepared in accordance with the New Jersey Water Pollution Control Act and its implementing regulations at N.J.A.C. 7:14A-1 et seq. - The New Jersey Pollutant Discharge Elimination System.

PERMIT ACTION: Surface Water Revoke & Reissue Permit Action

The New Jersey Department of Environmental Protection (Department) is revoking and reissuing the existing permit issued on January 7, 2010 and effective February 1, 2010 in order to incorporate updated Combined Sewer Overflow (CSO) requirements. The CSO requirements and basis can be found in Section 12 of this fact sheet.

1 Name and Address of the Applicant:

North Bergen Township MUA
6200 Tonnelle Avenue
North Bergen, NJ 07047-3312

2 Name and Address of the Facility/Site:

Woodcliff STP
7117 River Road
North Bergen, NJ 07047, Hudson County

3 Receiving Water Discharge Location Information:

A copy of the appropriate section of a United States Geological Survey (USGS) quadrangle map indicating the location of the facility and discharge point is included towards the end of this fact sheet.

Outfall Designator: 001A

General Information		Watershed Information	
Receiving Water:	Hudson River	Downstream Confluences:	Upper New York Bay
Via :	Outfall pipe	Receiving River Basin:	Passaic, Hackensack and New York Harbor Complex
Classification (a):	SE2(C2)	WMA (b):	05
Latitude:	40° 48' 12.2"	Watershed:	Hudson River
Longitude:	73° 59' 26.1"	Subwatershed:	Hudson River (lower)
County:	Hudson	HUC 14 (c):	02030101170030
Municipality:	North Bergen Township	Water Quality Impairments (d):	DDT, DDE, Dioxin (including 2,3,7,8-TCDD), Dieldrin, DDD, Benzo(a)pyrene (PAHs), PCBs, Mercury (fish tissue), Hexachlorobenzene, Chlordane
Outfall Description			
Outfall Configuration:	Submerged pipe	Submerged Pipe	Distance from shore: 19.68 feet
		Characteristics:	Depth below surface: 6.6 feet

Applicable Receiving Water Dilution Factors	
Acute :	10
Chronic :	18
Human Health Non-Carcinogen	18
Human Health Carcinogenic	--

Footnotes:

- (a) The designated uses for this waterbody classification can be found at N.J.A.C. 7:9B-1.12.
- (b) WMA = Watershed Management Area
- (c) HUC 14 = 14 digit Hydrologic Unit Code
- (d) These parameters are listed on Sublist 5 as impaired for this waterbody as per New Jersey's 2010 Integrated Water Quality Monitoring and Assessment Report (includes 305(b) Report and 303(d) List).

As per the Surface Water Quality Standards at N.J.A.C. 7:9B, the designated uses for the Saline Estuary 2 (SE2) receiving waters are:

1. Maintenance, migration and propagation of the natural and established biota;
2. Migration of diadromous fish;
3. Maintenance of wildlife;
4. Secondary contact recreation; and
5. Any other reasonable uses.

As noted in Section 3 above, this segment of the Hudson River is impaired for DDT, DDE, Dioxin (including 2,3,7,8 TCDD), Dieldrin, DDD, Benzo(a)pyrene (PAHs), PCBs, Mercury in fish tissue, Hexachlorobenzene and Chlordane. This facility does not discharge any of these parameters, except Mercury, in detectable levels. This permit action requires monitoring and reporting for Benzo(a)pyrene (PAHs), Chlordane, DDD, DDE, DDT, Dieldrin, Dioxin (including 2,3,7,8-TCDD) and Hexachlorobenzene. Mercury is also limited in this permit action. Please see Section 6. M. for additional information on PCBs.

4 Facility Description:

The facility is classified as a major discharger by the Department in accordance with the United States Environmental Protection Agency (EPA) rating criteria.

The permittee is a non-delegated local agency, and the Department will implement the Industrial Pretreatment Program (IPP) requirements as set forth in 40 CFR 403.8(f). However, non-delegated status does not relieve the permittee from the responsibility of controlling the wastewater that it accepts for treatment if that wastewater violates the local sewer use ordinance or regulations or causes the permittee to violate the terms of its NJPDES permit. The IPP in the non-delegated area will be a cooperative effort between the permittee and the Department to resolve problems when they arise.

Sanitary wastewater with industrial contribution is processed through the following units:

1. surge tank - 1
2. bar screens - 3 (2 mechanical, 1 manual)
3. grit chambers - 2
4. flowminutor - 2
5. primary clarifiers - 2
6. trickling filters - 2
7. secondary settling tanks (lamella plate settlers) - 4
8. chlorine contact tanks - 2
9. addition of sodium bisulfite for dechlorination

A schematic of the facility's treatment is included at the end of the fact sheet.

Sludge is thickened/dewatered via belt filter presses before being managed at an approved residuals management site, and is now regulated under NJPDES permit NJG0200581, which became effective on January 1, 2013.

The North Bergen Township MUA also owns and operates a Combined Sewer System (CSS) including one (1) Combined Sewer Overflow (CSO) outfall designated as DSN004A. Outfall DSN004A discharges combined sewage

into the Hudson River during wet weather periods when the combined sewage flows exceed the conveyance capacity of the collection system and/or the capacity of the STP. Additional information regarding this outfall can be found in Section 12.B. (Combined Sewer Overflow Discharge Description) of this fact sheet.

5 Type and Quantity of the Wastes or Pollutants:

The Permit Summary Table in Section 11 of this fact sheet contains a summary of the quantity and quality of pollutants treated and discharged from the facility and the proposed effluent limitations.

6 Summary of Permit Conditions:

The proposed effluent limitations and other pertinent information regarding the draft permit are described below:

A. Basis for Effluent Limitations and Permit Conditions - General:

The effluent limitations and permit conditions in this permit have been developed to ensure compliance with the following, as applicable:

1. NJPDES Regulations (N.J.A.C. 7:14A),
2. New Jersey Surface Water Quality Standards (N.J.A.C. 7:9B),
3. New Jersey's 2010 Integrated Water Quality Monitoring and Assessment Report (includes 305(b) Report and 303(d) List),
4. Requirements of the Interstate Environmental Commission (N.J.A.C. 7:9B-1.5(b)2),
5. Secondary Treatment Standards (40 CFR Part 133, N.J.A.C. 7:14A-12.2 and -12.3),
6. Existing permit limitations in accordance with N.J.A.C. 7:14A-13.19 and 40 CFR 122.44 (antibacksliding requirements),
7. Permit limitations in accordance with N.J.A.C. 7:9B-1.5(d) (antidegradation requirements),
8. Statewide Water Quality Management Planning Rules (N.J.A.C. 7:15),
9. Existing Effluent Quality limitations in accordance with N.J.A.C. 7:14A-13.8,
10. Sludge Quality Assurance Regulations (N.J.A.C. 7:14C),
11. Pretreatment Requirements (N.J.A.C. 7:14A-19),

In accordance with N.J.A.C. 7:14A-13.5, Water Quality Based Effluent Limitations (WQBELs) are imposed when it has been determined that the discharge of a pollutant causes an excursion of criteria specified in the New Jersey Surface Water Quality Standards (SWQS), N.J.A.C. 7:9B-1.1 *et seq.*, and the Federal Water Quality Standards, 40 CFR Part 131. WQBELs are authorized by Section 301 of the Clean Water Act, 40 CFR 122, N.J.S.A. 58:10A-4, and N.J.A.C. 7:14A-13.2 and 13.3. The procedures used to develop WQBELs are contained in the State and Federal Standards. Specific procedures, methodologies, and equations are contained in the current USEPA "Technical Support Document for Water Quality-based Toxics Control" (TSD) (EPA- 505/2-90-001) and are referenced in N.J.A.C. 7:14A-13.5 and 13.6.

Expression of all effluent limitations is in accordance with N.J.A.C. 7:14A-13.14 and 13.15.

Whole effluent toxicity is expressed as a minimum as percent effluent.

Loading limitations (kg/day or g/day) are calculated by multiplying the flow value of 2.91 million gallons per day (MGD) by the conversion factor of 3.785 (L/gal) and the appropriate concentration limitation (mg/L or µg/L).

B. Basis and Derivation for Effluent Limitations and Monitoring Requirements- Specific:

All permit limitations and conditions in this permit action, are equal to or more stringent than those contained in the existing permit action, except for Ammonia as explained below. As a result, this permit action satisfies the federal and state anti-degradation regulations at 40 CFR 131.12 and N.J.A.C. 7:9B-1.5(d), and no further anti-degradation analysis is necessary.

Monitoring frequencies and sample types are in accordance with N.J.A.C. 7:14A-14, unless specified otherwise in the permit. In accordance with N.J.A.C. 7:14A-14.2, the permittee may submit a written request for a modification of the permit to decrease monitoring frequencies for non-limited parameters listed in Part III if site specific conditions indicate the applicability of such a modification.

1. Flow: This permit action does not include a numerical limitation for flow. Monitoring conditions are applied pursuant to N.J.A.C. 7:14A-13.13.

2. 5-Day Biochemical Oxygen Demand (BOD₅):

The concentration limitations are based on the definition of secondary treatment at 40 CFR 133.102(a) (1) and (2) and N.J.A.C. 7:14A-12.2 (b) 1. and 2 and are consistent with the anti-backsliding provisions as cited in N.J.A.C. 7:14A-13.19.

Percent removal limitations are based on the definition of secondary treatment at 40 CFR 133.102(a)(3) and N.J.A.C. 7:14A-12.2(b) 3.

The monitoring frequency is 1/Week with a 24-hour Composite sample type.

3. Total Suspended Solids (TSS): The concentration limitations are based on the definition of secondary treatment at 40 CFR 133.102 (b) (1) and (2). and N.J.A.C. 7:14A-12.2(e) 1. and 2 and are consistent with the anti-backsliding provisions as cited in N.J.A.C. 7:14A-13.19.

Percent removal limitations are based on the definition of secondary treatment at 40 CFR 133.102(b)(3) and N.J.A.C. 7:14A-12.2(e) 3.

The monitoring frequency is 1/Week with a 24 hour Composite sample type.

4. pH: The effluent limitations are based on the definition of secondary treatment at 40 CFR 133.102(c) and N.J.A.C. 7:14A-12.2 (f) and are consistent with the anti-backsliding provisions are cited in N.J.A.C. 7:14A-13.19.

The monitoring frequency is 2/Day with a Grab sample type.

5. Temperature:

As authorized by N.J.A.C. 7:14A-6.2(a)14, monitoring and reporting requirements for temperature are included in the permit.

The monitoring frequency is 2/Day with a Grab sample type.

6. Fecal Coliform: The limitations are based on N.J.A.C. 7:14A-12.5(b) 1. and 2 and are consistent with the anti-backsliding provisions as cited in N.J.A.C. 7:14A-13.19.

The monitoring frequency is 4/Month with a Grab sample type.

7. Dissolved Oxygen (DO): The effluent limitation is based on the antibacksliding provisions as cited in N.J.A.C 7:14A-13.19. A weekly average limitation of 4 mg/L adequately protects the instream water quality for DO.

The monitoring frequency is 1/Week with a Grab sample type.

8. Oil and Grease: The effluent limitations are based on N.J.A.C. 7:14A-12.8(c).

The monitoring frequency is 1/Month with a Grab sample type.

9. Mercury: Based on the adopted US EPA Region 2 Total Maximum Daily Load Phase I published in the Federal Register (59 (FR) 41293), the monthly average existing effluent quality based loading limit for mercury is carried over from the existing final permit as per the antibacksliding provisions at N.J.A.C. 7:14A-13.19.

The monitoring frequency is 1/Month with a 24 hour Composite sample type.

10. Chlorine Produced Oxidants (CPO):

The water quality based effluent limitations were calculated by the procedures set forth in the USEPA Technical Support Document. Consistent with the recommendations set forth in the USEPA Technical Support Document (Section 5.5.2), the Department utilized a default Coefficient of Variation (CV) of 0.6 for the analysis.

Using the steady state mass balance equation, wasteload allocations were developed utilizing the applicable criteria specified in the New Jersey Surface Water Quality Standards (SWQS) at N.J.A.C. 7:9B, pollutant specific upstream concentrations (when available), the permittee's NJPDES flow value of 2.91 MGD, and dilution factors based on the final report entitled "North Bergen Dilution Study", dated January 1992, and submitted by Metcalf & Eddy on behalf of the permittee,

For acute and chronic calculations, long term average values were developed using the 99th percentile multiplier and the more stringent results were utilized in calculating the maximum daily limitation (MDL) and average monthly limitations (AML). As per N.J.A.C. 7:14-A-13.14(a)2, limitations shall be expressed as concentration and mass loading. Refer to the table below for the input data and calculation results, and the Calculations Equations section of the fact sheet for additional reference.

Data Input and Calculation Results :

All concentration units in mg/L	Acute	Chronic
Upstream concentration, (C _{up})	0.0	0.0
Effluent flow (cfs)	4.502	4.502
Predetermined Dilution Factors (D _f)	10	18
Surface Water Quality Criteria, (C _i)	0.013	0.0075
Wasteload Allocation, (WLA)	0.13	0.135
Coefficient of Variation (CV)	0.6	0.6
WLA multiplier for LTA	0.321	0.527
Long Term Average, (LTA)	0.042	0.071
More stringent LTA	Acute	
LTA multiplier for MDL	3.114	
LTA multiplier for AML	1.282	
Maximum Daily Limitation, (MDL)	0.13	
Average Monthly Limitation, (AML)	0.054	

Where the WQBELs are more stringent than the quantification limit (i.e. 0.1 mg/L), effluent compliance will be determined by comparing the reported value against the applicable quantification limit. Therefore, the enforceable monthly average concentration limitation is 0.1 mg/L and the enforceable monthly average loading limitation is 1.1 kg/day.

The monitoring frequency is 2/Day with a Grab sample type.

11. Ammonia (Total as N):

In accordance with N.J.A.C. 7:14A-13.6(a) and 13.5(a), a water quality based effluent limitation (WQBEL) shall be imposed when the Department has determined that the discharge causes or has the reasonable potential to cause an excursion above the Surface Water Quality Standards (SWQS).

After review of the applicable data set, ammonia was found to be discharged in quantifiable amounts in the permittee's effluent. Therefore, analysis to determine the need for ammonia WQBELs was conducted consistent with N.J.A.C. 7:14A-13.5(e) and the procedures specified in the USEPA Technical Support Document. Consistent with N.J.A.C. 7:14A-13.5(e), the discharge shall be determined to cause an excursion above the Surface Water Quality Standards if the maximum reported effluent concentration, considering the criteria averaging period, for the pollutant of interest is greater than the wasteload allocation (WLA) or the site-specific allocation for that pollutant. Consistent with N.J.A.C. 7:14A-13.5(g), the discharge shall be determined to have the reasonable potential to cause an excursion above the Surface Water Quality Standards if the maximum projected effluent concentration, considering the criteria averaging period, for the pollutant of interest is greater than the wasteload allocation (WLA) or the site-specific allocation for that pollutant. The projected maximum effluent value was calculated utilizing the procedures specified in section 3.0 of the USEPA Technical Support Document for Water Quality-based Toxics Control (TSD), a multiplier based on a year-round site-specific coefficient of variation of 0.41, a 95% confidence level and a 95% probability basis (refer to Section 3.3.2 of USEPA's TSD).

Ammonia-N in water exists in two forms: NH_3 and NH_4^+ . As NH_3 , ammonia-N is called "un-ionized"; as NH_4^+ , ammonia-N is called "ionized". Generally, the un-ionized fraction is considered more toxic than the ionized fraction. The relative proportion that is found in each fraction is primarily dependent on the temperature and the pH of the solution. At a higher temperature and/or a higher pH, more ammonia-N exists in the un-ionized form as compared to a lower temperature and/or pH. Ammonia-N is usually measured as total ammonia-N, which includes both the ionized and the un-ionized fractions.

The current State Water Quality Standards set an instream limit on the concentration of un-ionized ammonia that may be allowed in the stream. The water quality criteria can be found at N.J.A.C. 7:9B-1.14. The criteria may be expressed as calculations dependent on instream temperature and pH. Where this is the case the values for temperature and pH used to calculate the un-ionized ammonia criteria are those values that exist after any allowable mixing of the effluent and receiving water. There are criteria values for both acute and chronic toxicity effects.

Wasteload Allocation Derivation:

The total ammonia-N wasteload allocations, both acute and chronic, were calculated by mass balance and by solving a series of simultaneous equations for the carbonate and ammonia equilibria according to the methodologies identified below. For the analysis, it was assumed that there is complete and total mixing within the regulatory mixing zone for the receiving water body. The input data in the solution of the equilibrium equations and calculation of the wasteload allocation were derived from:

- 1) Effluent pH data from June 2009 through October 2012 submitted by the permittee on December 26, 2012,
- 2) Effluent temperature data from June 2008 through October 2012 submitted by the permittee on December 26, 2012,
- 3) Dilution factors based on the final report entitled "North Bergen Dilution Study", dated January 1992, and submitted by Metcalf & Eddy on behalf of the permittee,
- 4) Ambient water quality data from July 2006 through June 2011 that was collected in accordance with a NJDEP-approved work plan entitled "Quality Assurance Project Plan - Long-Term Water Quality Monitoring of the New Jersey Portion of the New York/New Jersey Harbor Waters by the New Jersey Harbor Dischargers Group", originally submitted to the Department on May 11, 2005 with revision dates of June 21, 2005 and August 1, 2006 (Station #32). As the permittee is a current member of the New

Jersey Harbor Dischargers Group, the Department has concluded that this information is appropriate for use in this analysis.

- 5) Individual effluent data from July 2011 through June 2012 submitted by the permittee on December 26, 2012.
- 6) Monthly average effluent data from February 2010 through October 2012 from the DMRs.
- 7) Conservative effluent and ambient Alkalinity values in lieu of requiring the permittee to conduct an effluent and ambient monitoring program.

On January 7, 2010, the Department issued the final NJPDES/DSW renewal permit to the North Bergen MUA for the Woodcliff STP, which contained summer (May- October) ammonia water quality based effluent limits. The need for water quality based ammonia effluent limits was based on ambient water quality data from Monitoring Station #31 on the Hudson River for the period December 2003 through November 2006, which was collected in accordance with the NJDEP approved work plan entitled "Quality Assurance Project Plan-Long Term Water Quality Monitoring of the New Jersey Portion of the New York/New Jersey Harbor Waters by the New Jersey Harbor Dischargers Group", originally submitted to the Department on May 11, 2005 with revision dates of June 21, 2005 and August 1, 2006. Conservative effluent and ambient Alkalinity values were also used in the analysis in lieu of requiring the permittee to conduct an effluent and ambient monitoring program.

On February 18, 2010, the Department received a request for an adjudicatory hearing and stay to contest among other things, the summer ammonia effluent limits. The permittee indicated that more recent ambient data would be forthcoming to show that ammonia limits are not necessary. The Department granted the permittee's request for a stay of the ammonia limits on January 10, 2012.

On December 26, 2012, the Department received a letter and a compact disc containing ammonia, temperature, pH, and salinity effluent and/or ambient data for the North Bergen MUA's Woodcliff Wastewater Treatment Plant. Monitoring Stations #31, #32, and N3B on the Hudson River were used to collect the ambient data. This additional information was submitted in order to resolve the last outstanding adjudicatory issue relating to the ammonia effluent limitations.

The Department has determined that ambient data from Monitoring Station #32 is the most appropriate to use based on its proximity to the outfall pipe and its listing in the above mentioned NJDEP approved work plan. A new ammonia toxicity analysis was conducted using this new information.

Carbonate Equilibrium: The simultaneous equilibrium (temperature corrected) for the first and second carbonate equilibrium for each pH value are solved to calculate the carbon species and the hydrogen ion concentrations. This is done separately for each of the receiving waterbody background conditions and the effluent.

The concentrations for the carbon fractions at the edge of the mixing zone are then calculated by mass balance. The final temperature at the edge of the mixing zone is also calculated by mass balance.

The final hydrogen ion concentration at the edge of the mixing zone is then calculated by the carbonate equilibrium equations. The final pH is calculated from the final hydrogen ion concentration.

Equilibrium Equation:

$$\log K = -[A/T] + D - C \times T$$

$$C = 0.032786$$

$$D = 14.8435$$

$$A = 3404.71$$

$$T = \text{Temp in } ^\circ\text{K}$$

Ammonia-N Equilibrium: The ammonia/ammonium ion equilibrium is identified as equation 1 below.

$$K_a^o = \frac{a_{NH_3} \times a_{H^+}}{a_{NH_4^+} \times a_{H_2O}} \quad [1]$$

where: K_a^o = equilibrium constant
 a_i = activity of the compound i

Utilizing equation 1, along with the substitution of the appropriate compound activities and the definition of total ammonia (i.e. total ammonia is equal to the sum of the unionized and ionized forms), equation 2 is developed to express the unionized ammonia waste load allocation in the form of total ammonia.

$$m_T = m_{NH_3} \times \left\{ 1 + \left[\left(10^{pK_a^o - pH} \right) \times \frac{\gamma_{NH_3}}{\gamma_{NH_4^+}} \times a_{H_2O} \right] \right\} \quad [2]$$

where: m_T = total ammonia
 m_{NH_3} = unionized ammonia
 pK_a^o = $9.245 + \left[2727.24 \times \left(\frac{1}{T + 273.16} - \frac{1}{298.16} \right) \right]$
T = Temperature, °C
 γ_{NH_3} = activity coefficient, with ionic strength correction, for unionized ammonia
 $\gamma_{NH_4^+}$ = activity coefficient, with ionic strength and temperature correction, for m_{NH_3}
 a_{H_2O} = activity of water $[(-0.0260 \times I) + 1.000]$

In calculating the appropriate activity coefficients, ionic strength (I) is determined based on salinity for saline waters and conductivity for fresh waters. For details on the equations utilized to calculate the activity coefficients or any equations identified above, please refer to the November 2000 document entitled "Basis and Background document New Jersey-Specific Unionized Ammonia Criteria" and prepared by the NJDEP Division of Watershed Management. In addition, refer to Table 1. below for a summary of the input parameters and calculation results.

A "reserve capacity", or "margin of safety", is considered in setting the wasteload allocation in accordance with N.J.A.C. 7:15-7.1 and Section 4.2.1 of the USEPA "Technical Support Document for Water Quality-based Toxics Control" (TSD) (EPA/505/2-90-001, March 1991). In this permit, the Department has determined that the ammonia toxicity analysis is a subset of a parameter specific TMDL as identified in N.J.A.C. 7:15-7.1.

WQBEL Analysis and Results:

As a result of the WQBEL analysis, the discharge of ammonia in the facility's effluent **was not found to cause or have the reasonable potential to cause** an excursion of the SWQS in the winter (November through April) and summer (May through October) seasons. Please refer to Table 2. for the results of the analysis. Therefore, WQBELs for the winter and summer seasons are not proposed in this permit action at this time consistent with N.J.A.C. 7:14A-13.5(k). However, winter and summer season monthly average and daily maximum monitoring and reporting requirements for ammonia have been included in this permit action based on N.J.A.C. 7:14A-13.5(k)3 and the need to re-evaluate the appropriateness of WQBELs upon renewal of the permit (based on the recommendations of section 3.1 of the EPA Technical

Support Document). Refer to the effluent monitoring frequency section of the fact sheet for frequency specifications.

Antibacksliding/Antidegradation Analysis:

Since the summer ammonia effluent limits were stayed an anti-backsliding and anti-degradation analysis is not necessary.

Table 1. Data Input for Equilibrium Equations and Calculation Results:

	Summer (a)		Winter (a)	
	Acute	Chronic	Acute	Chronic
Dilution Factor	10	18	10	18
Ambient pH (su)	7.66	7.66	7.71	7.71
Ambient temperature (°C)	24.7	24.7	11.54	11.54
Ambient alkalinity (mg/L)	200	200	200	200
Ambient salinity (g/L or ppt)	10.42	10.42	12.41	12.41
Ambient NH3-N (mg/L)	0.385	0.385	0.28	0.28
Effluent pH (su)	7.27	7.27	7.12	7.12
Effluent temperature (°C)	27	27	19	19
Effluent alkalinity (mg/L)	100	100	100	100
Effluent salinity (g/L or ppt)	0	0	0	0
pH (su) after mixing	7.62	7.64	7.65	7.68
Temperature (°C) after mixing	24.98	24.88	12.29	11.95
Alkalinity (mg/L) after mixing	190	194.44	190	194.44
Salinity (g/L or ppt) after mixing	9.4	9.8	11.2	11.7
Ionic Strength after mixing	0.1886	0.1980	0.2251	0.2363
Un-ionized NH3-N criteria (mg/L)	0.1150	0.030	0.1150	0.030
Reserve Capacity (%)	20	20	20	20
Criteria – Reserve Capacity (mg/L)	0.0920	0.0240	0.0920	0.0240
Wasteload Allocation (mg/L)	53.26	19.59	133.66	57.54
Coefficient of Variation	0.48	0.48	0.48	0.48
Long-Term Average (mg/L)	20.337	16.017	51.044	47.045
Number of Samples / Month	4	4	4	4
WQBEL avg. monthly (mg/L)	N/A	N/A	N/A	N/A
WQBEL max. daily (mg/L)	N/A	N/A	N/A	N/A

(a) Summer season is from May 1 through October 31 and the winter season is from November 1 through April 30.
N/A Not Applicable

Table 2. Evaluation to Determine the Need for WQBELs

Criteria	Season (1)	Data set time period	# of data points	"Cause Analysis"			"Reasonable Potential to Cause" Analysis			
				Maximum Value (mg/L) A	Calculated WLA (mg/L) B	"Cause" A > B ?	CV	RPMF	Maximum Projected Value (mg/L) C	"RP to Cause" C > B ?
Acute (3)	Summer	7/2011 to 6/2012	(dt) = 24 (nd) = 0	9.64 (t)	53.26 (t)	No	0.48	1.23	11.86 (t)	No
	Winter	7/2011 to 6/2012	(dt) = 24 (nd) = 0	17.3 (t)	133.66 (t)	No	0.48	1.23	21.28 (t)	No
Chronic (2)	Summer	2/2010 to 10/2012	(dt) = 18 (nd) = 0	10.87 (t)	19.59 (t)	No	0.48	1.3	14.13 (t)	No
	Winter	2/2010 to 10/2012	(dt) = 15 (nd) = 0	13.73 (t)	57.54 (t)	No	0.48	1.4	19.22 (t)	No

Footnotes:

(dt) = data values detected

(nd)= data values non-detected

(t) = values expressed as total ammonia

(1)= summer season is from May 1 through October 31 and the winter season is from November 1 through April 30

(2) = Consistent with the criteria averaging period for the chronic criteria, the effluent data set and maximum values are based on 30-day average effluent value.

(3) = The effluent data set and maximum values are based on individual data corresponding to the winter and summer months.

The monitoring frequency is 1/week with a 24 hour composite sample type.

12. Whole Effluent Toxicity (WET): Section 101(a) of the Clean Water Act (CWA) establishes a national policy of restoring and maintaining the chemical, physical and biological integrity of the Nation's waters. In addition, section 101(a)(3) of the CWA and the State's Surface Water Quality Standards (SWQS) at N.J.A.C. 7:9B-1.5(a)4 state that the discharge of toxic pollutants in toxic amounts is prohibited. Further, 40 CFR 122.44(d) and N.J.A.C. 7:14A-13.6(a) require that where the Department determines using site-specific WET data that a discharge causes, shows a reasonable potential to cause, or contributes to an excursion above the SWQS, the permitting authority must establish effluent limits for WET. In order to satisfy the requirements of the CWA, the State's SWQS and the NJPDES Regulations, the need for a water quality based effluent limitation (WQBEL) for WET was evaluated for this discharge.

In order to determine the need for a WET WQBEL, the Department has analyzed all available WET effluent data. In general, an acceptable data set consists of, at a minimum, 10 data values including the most recent 2½ years of data collection. Based on the review of the applicable data set, the Department has concluded the following:

- After review of the applicable data set, WET was found in quantifiable amounts in the effluent. Therefore, further analyses have been conducted for WET.

Cause Analysis:

For WET, a cause analysis was conducted in accordance with N.J.A.C. 7:14A-13.5. When the maximum effluent value (in toxic units) exceeds the applicable site specific wasteload allocation (in toxic units), the discharge is shown to cause an exceedance of the surface water quality standards.

Using the steady state mass balance equation, acute and chronic wasteload allocations of 3 TU_as and 18 TU_cs respectively, were developed utilizing the narrative criteria for toxic substances (general) specified in the New Jersey Surface Water Quality Standards (SWQS) at N.J.A.C. 7:9B, and acute and chronic dilution factors of 10 and 18 respectively, based on the final report entitled "North Bergen Dilution Study", dated January 1992, and submitted by Metcalf & Eddy on behalf of the permittee. Consistent with the recommendations of section 2.3.3 of the TSD, values of 0.3 acute toxic unit (TU_a) and 1.0 chronic toxic unit (TU_c) were used to interpret the narrative water quality criteria for WET contained at N.J.A.C. 7:9B-1.14(c) (see Response to Comments 13-74 through 13-89, 29 NJR 1861, (May 5, 1997)).

Effluent data for the time period of June 2010 through December 2012 was utilized for this analysis.

Review of the acute WET data set indicates the maximum effluent data value to be 3.64 TU_as (i.e. an LC50 = 28 % on 9/2012). Since the maximum reported effluent data value exceeds the applicable site specific wasteload allocation of 3 TU_as, the discharge causes an exceedance of the acute interpretation of the narrative criteria for WET identified in the surface water quality standards.

Water Quality Based Effluent Limitation Derivation:

Since the discharge was found to cause and/or have reasonable potential to cause an exceedance of the acute interpretation of the narrative criteria for WET identified in the surface water quality standards, a WQBEL has been calculated in accordance with N.J.A.C. 7:14A-13.6(a), 40 CFR 122.44(d), and

USEPA's "Technical Support Document for Water Quality Based Toxics Control (EPA/505/2-90-001), March 1991" (TSD).

To enable a comparison between acute and chronic WET limits, the acute WLA (WLA_a) was translated to equivalent chronic toxic units (WLA_{ac}) by multiplying the WLA_a by a default acute to chronic ratio (ACR) of 10.

The acute and chronic WLAs were then converted to an acute Long Term Average (LTA_{ac}) of 16.23 TU_{acs} and a chronic LTA (LTA_c) of 9.5 TU_{cs} , using a site-specific acute coefficient of variation (CV) of 0.29, a default chronic coefficient of variation (CV) of 0.6, and multipliers of 0.541 and 0.527 for the acute and chronic LTAs respectively. Those multipliers are based on the 99th percentile consistent with Response to Comments 13-74 through 13-89, 29 NJR 1861 and are found on Page 102 of the TSD. The resultant long term average values were evaluated and the more protective (e.g. lower) value selected for translation into a daily maximum WET limit using the applicable 99th percentile multiplier, as found on Page 103 of the TSD.

The daily maximum chronic WET limit of 29.57 TU_{cs} was then converted to a permit limitation expressed as an IC25. The resultant limitation is an IC25 = 3.4 % effluent.

However, because the resultant chronic limitation is less than 10% and the equivalent LC50 is 34%, it was determined that the calculated chronic toxicity limit would not be representative for 7-day survival and growth measurement of WET and that the acute toxicity would be a more appropriate measure. Therefore, the applicable limit is an $LC50 \geq 34\%$.

The existing permit contains an action level of an $LC50 \geq 50\%$ in accordance with N.J.A.C. 7:14A-13.18(f)1.iv. Therefore, the final permit will include a WQBEL of an $LC50 \geq 34\%$ and an acute WET action level of $LC50 \geq 50\%$.

The test species method to be used for acute testing shall be the *Mysidopsis bahia* 96 hour definitive test. Such selection is based on the saline characteristics of the receiving stream, the existing permit, N.J.A.C. 7:9B-1.5 and N.J.A.C. 7:18, the Regulations Governing the Certification of Laboratories and Environmental Measurements (N.J.A.C. 7:18).

The Toxicity Reduction Implementation Requirements (TRIR) are included in accordance with N.J.A.C. 7:14A-13.17(a), 7:14A-6.2(a)5 and recommendations in Section 5.8 of the TSD. The requirements are necessary to ensure compliance with the applicable WET limitation on its effective date and to expedite compliance with the WET limitation should exceedances of the WET limitation occur. As included in section B.1 of the TRIR requirements, the initial step of the TRIR is to identify the variability of the effluent toxicity and to verify that a consistent toxicity problem does in fact exist.

Effluent samples for conducting WET testing are to be collected after the last treatment step, consistent with the collection location for all other parameters.

13. Foam: The narrative foam permit condition is based on N.J.A.C. 7:14A-12.6.

14. Toxic Metals, Organic Compounds, and Cyanide:

In accordance with N.J.A.C. 7:14A-13.6(a), a water quality based effluent limitation (WQBEL) shall be imposed when the Department determines pursuant to N.J.A.C. 7:14A-13.5 that the discharge of a pollutant causes an excursion above a Surface Water Quality Standards (SWQS).

In order to determine the need for toxic pollutant specific WQBELs, the Department has analyzed all effluent data sets made available to the Department. Acceptable data sets generally consist of, at a minimum, 10 data values including the most recent 2½ years of data collection. A pollutant is considered discharged in

“quantifiable amounts” when an exact amount of that pollutant is measured equal to or above the detection level reported by a laboratory analysis (refer to the “Discharge Monitoring Report (DMR), Instruction Manual, Revised December 1993” for further information). Based on the review of the data sets, the Department has concluded the following:

- After review of the applicable data sets, **Acids, Base Neutrals (except Bis (2-ethylhexyl) Phthalate), Pesticides, Volatiles, Cyanide, Antimony, Arsenic, Beryllium, Cadmium, Chromium Hexavalent, Chromium Trivalent, Total Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, and Thallium** were not found to be discharged in the effluent. Therefore, there is no cause or reasonable potential to cause an excursion of the SWQS for these parameters. These toxic pollutants do not have effluent limitations proposed in the draft permit at this time. However, monitoring and reporting requirements have been included in this permit action based on N.J.A.C. 7:14A-13.5(k)3 and the need to re-evaluate the necessity for WQBELs upon renewal of the permit (based on the recommendations of section 3.1 of the EPA Technical Support Document). Refer to the effluent monitoring frequency section of the fact sheet for frequency specifications.
- After review of the applicable data sets, **Bis (2-ethylhexyl) Phthalate, Manganese, and Zinc** were found to be discharged in quantifiable amounts in the effluent. Therefore, further analyses have been conducted on these pollutant(s).

Quantified Pollutant Analysis Methodology:

For each pollutant discharged in quantifiable amounts in the effluent, a cause analysis was conducted using the procedures specified in the USEPA Technical Support Document in accordance with N.J.A.C. 7:14A-13.5. The cause analysis consists of a comparison between the pollutant’s maximum effluent concentration value (or average value of a long term data set in the case of criteria with an averaging period longer than one year) and the pollutant’s applicable site specific wasteload allocation.

Using the steady state mass balance equation, wasteload allocations were developed utilizing the applicable surface water quality criteria, pollutant specific upstream concentrations (when available), and dilution factors from the dilution study titled “North Bergen Woodcliff Effluent Dilution Study,” submitted by Metcalf & Eddy, dated January 1992.

For the applicable pollutants (Zinc), the applied criteria is based on a water effect ratio (WER) of 1.0.

For the applicable metals, default/site specific translators were utilized to convert total recoverable data to its dissolved equivalent for the cause analyses for aquatic criteria, and, if applicable, to convert the dissolved long term averages to total recoverable values for determining WQBELs. Translator values for the parameters listed below, if not site specific, are based on the conversion factors for dissolved metals at 40 CFR Part 131 and N.J.A.C. 7:9B-1.5(c)6. The default metal translators used in the analyses are as follows:

Metal	Fresh Water		Saline Water	
	Translator (acute)	Translator (chronic)	Translator (acute)	Translator (chronic)
Zinc	0.978	0.986	0.946	0.946

Quantified Pollutant Analysis Results:

Cause analyses were conducted on **Bis (2-ethylhexyl) Phthalate, Manganese, and Zinc**. As a result of the cause analyses, none of the parameters were found to cause or have reasonable potential to cause an excursion of the SWQS. The Department’s conclusions and results are listed below. Refer to Table A at the back of the fact sheet for a summary of the effluent limitation analysis for the Toxic Metals, Organic Compounds, and/or Cyanide.

- Since the discharge of **Bis (2-ethylhexyl) Phthalate, Manganese, and Zinc** in the permittee's effluent were not found to cause or have a reasonable potential to cause an excursion of the SWQS, WQBELs are not proposed in the draft permit for the parameters at this time. However, monitoring and reporting requirements have been included in this permit action based on N.J.A.C. 7:14A-13.5(k)3 and the need to re-evaluate the necessity for WQBELs upon renewal of the permit (based on the recommendations of section 3.1 of the EPA Technical Support Document). Refer to the effluent monitoring frequency below for frequency specifications.

Consistent with the intent of 40 CFR 122.45(c) and N.J.A.C. 7:14A-13.14(b), monitoring data for toxic metals (excluding Hexavalent Chromium) shall be expressed as total recoverable. As authorized by N.J.A.C. 7:14A-13.14(b)3, the monitoring data for Hexavalent Chromium shall be expressed as dissolved.

As authorized by N.J.A.C. 7:14A-6.2(a)14, the monitoring frequencies for **base neutrals, (except bis(2-ethylhexyl) phthalate, acids, pesticides, volatiles, antimony, arsenic cadmium, chromium, hexavalent chromium, trivalent chromium, cyanide, lead, mercury, selenium, silver, nickel, and thallium** have been established at **ANNUALLY** based on the existing permit conditions and the fact that these parameters were not discharged in quantifiable amounts in the effluent. In satisfying the recommendations of section 3.1 of the EPA Technical Support Document, it is the Department's position that annual monitoring for the specified pollutant{s} will provide sufficient up-to-date data to re-evaluate the necessity for WQBELs upon renewal of the permit.

As authorized by N.J.A.C. 7:14A-6.2(a)14, the monitoring frequencies for **manganese, bis(2-ethylhexyl) phthalate, and zinc** have been established at **SEMI-ANNUALLY**. These pollutants were found to be discharged in the effluent in quantifiable amounts. However, the data did not indicate that the discharge of these pollutants at the levels reported would cause or have a reasonable potential to cause an exceedance of the surface water criteria. In satisfying the recommendations of section 3.1 of the EPA Technical Support Document, it is the Department's position that semi-annual monitoring for the specified pollutants will provide sufficient up-to-date data to re-evaluate the necessity for WQBELs upon renewal of the permit.

C. Influent and Effluent Monitoring Requirements:

In order to calculate percent removals, influent monitoring is required for BOD₅ and TSS in accordance with N.J.A.C. 7:14A-6.5(b) and -11.2(a) 2. Consistent with the intent of 40 C.F.R. 403.5 and as authorized by the provisions of N.J.A.C. 7:14A-6.3(a), the monitoring requirements for influent pH and temperature are included in the permit.

In accordance with N.J.A.C. 7:14A-14.2(c) and compliance of existing permit frequency reduction conditions, monitoring frequencies have been reduced for the following parameter(s): nickel and di-n-butyl phthalate.

D. Recommended Quantitation Levels Policy (RQLs):

The Department developed the RQLs to insure that useful data is provided to the Department in order to characterize the discharger's effluent. The Department recommends that the permittee achieve detection levels that are at least as sensitive as the RQLs found in Part III. The Department has determined that the quantitation levels listed therein can be reliably and consistently achieved by most state certified laboratories for most of the listed pollutants using the appropriate procedures specified in 40 CFR Part 136. **FAILURE TO ATTAIN A QUANTITATION LEVEL AS SENSITIVE AS A LISTED RQL IS NOT A VIOLATION OF THE PERMIT, BUT DOES TRIGGER SOME ADDITIONAL REPORTING REQUIREMENTS FOR THE PERMITTEE AS SPECIFIED IN PART IV OF THE PERMIT.**

E. Reporting Requirements:

All data requested to be submitted by this permit shall be reported on the Discharge Monitoring Reports (DMRs), Waste Characterization Reports (WCR), and Residual Transfer Reports (RTR) as appropriate and submitted to the Department as required by N.J.A.C. 7:14A-6.8(a).

F. General Conditions:

In accordance with N.J.A.C. 7:14A-2.3 and 6.1(b), specific rules from the New Jersey Administrative Code have been incorporated either expressly or by reference in Part I and Part II.

G. Operator Classification Number:

The operator classification requirement is no longer included in the permit. To obtain or determine the appropriate licensed operator classification for the treatment works specified, the permittee shall contact the Bureau of Finance and Construction Permits: Engineering Section North at (609) 292-3025.

H. Flow Related Conditions:

All flow related conditions are incorporated into the permit to implement the Treatment Works Approval Program (N.J.A.C. 7:14A-22), the Capacity Assurance Program (N.J.A.C. 7:14A-22.16), the Sewer Ban Program (N.J.A.C. 7:14A-22.17), the applicable Water Quality Management Plan (N.J.A.C. 7:15), and the Sludge Quality Assurance Regulations (N.J.A.C. 7:14C).

The numerical value used for flow as a permit condition is consistent with the Northeast Water Quality Management Plan in accordance with N.J.A.C. 7:14A-15.4(b).

I. Pretreatment Conditions:

The pretreatment conditions as specified in this permit are consistent with the requirements under N.J.A.C. 7:14A-19.3.

J. Residuals/Sludge Conditions:

All treatment works with a discharge regulated under N.J.A.C. 7:14A must have permits that implement applicable technical standards for residuals management. All applicable conditions for residuals management are included in NJPDES permit No. NJG0200581; thus, have been removed from this permit reissue.

K. Reclaimed Water for Beneficial Reuse (RWBR):

This draft permit contains conditions allowing the North Bergen MUA Woodcliff STP to beneficially reuse treated effluent identified as RWBR provided the effluent is in compliance with the criteria specified for the particular use. There are two main types of RWBR uses, Public Access Use and Restricted Access Use. Conditions applicable to both types of RWBR are included herein. However, currently approved types of RWBR are included in Appendix A of this permit. As specified in Part IV, the permittee must obtain approval from the Department for each additional RWBR application prior to implementation. Approval shall be granted via a minor modification to the permit for any newly requested applications and included in Appendix A of this permit.

1. Effluent Limitations and Monitoring Requirements for Distribution of Reclaimed Water for Beneficial Reuse for **Public Access**

When the permittee distributes RWBR to an approved reuse location, the surface water discharge effluent limitations contained in Part III of this permit and requirements for Public Access reuse identified in Part IV of this permit shall be met. In addition, the following system, operational and monitoring conditions shall be applicable.

Reclaimed water shall not exceed 5.0 mg/L of Total Suspended Solids (TSS) at a point before application of disinfection. The sample type shall be grab. The facility shall provide continuous on-line monitoring for turbidity before application of disinfection. These requirements are consistent with the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and EPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse", EPA # 430/09-91-022, September 1991 and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

Where chlorine is utilized for disinfection, chlorine-produced oxidants (CPO) of at least 1.0 mg/L shall be maintained for a minimum acceptable contact time of 15 minutes at peak hourly flow. The treatment facility shall provide continuous on-line monitoring for CPO at the reuse compliance monitoring point, which shall be prior to distribution to an approved reuse location. This requirement is consistent with the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and EPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse" EPA # 430/09-91-022, September 1991 and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

Where ultraviolet light is utilized for disinfection, a design UV dose of 100 mJ/cm² under maximum daily flow shall be used. This dose shall also be based on continuous monitoring of UV lamp intensity, UV transmittance and UV flow rate. All aspects of the UV system shall meet the requirements of the December 2000 National Water research Institute's Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse and the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse."

Fecal coliform concentrations shall not exceed 14 fecal coliforms per 100 mL at any given time (as an instantaneous maximum level). Fecal coliform concentrations shall also meet a weekly (7 day) median value of 2.2 fecal coliforms per 100 mL. This is consistent with a report entitled "Regulations Governing Agricultural Use of Municipal Wastewater and Sludge", National Academy Press, Washington, D.C. 1996, Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

RWBR limitations shall not exceed a total nitrogen (NO₃ + NH₃) concentration of 10.0 mg/L. This is the Ground Water Quality Standard (as per N.J.A.C. 7:9-6) and consistent with the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse." This requirement only applies when RWBR is land applied, however, this requirement does not apply to spray irrigation within a fenced perimeter or otherwise restricted area. The permittee may demonstrate that a concentration greater than 10 mg/l is protective of the environment by submitting and receiving approval of the information stated in the Engineering Report section of the "Technical Manual for Reclaimed Water for Beneficial Reuse."

2. Effluent Limitations and Monitoring Requirements for Distribution of Reclaimed Water for Beneficial Reuse for **Restricted Access – Land Application and Non Edible Crops**

When the permittee distributes RWBR to an approved reuse location, the surface water discharge effluent limitations contained in Part III of this permit and requirements for Non Edible Crops reuse identified in Part IV of this permit shall be met. In addition, the following system, operational and monitoring conditions shall be applicable.

Where chlorine is utilized for disinfection, chlorine-produced oxidants (CPO) of at least 1.0 mg/ L shall be maintained for a minimum acceptable contact time of 15 minutes at peak hourly flow. The treatment facility shall provide continuous on-line monitoring for CPO at the reuse compliance monitoring point, which shall be prior to distribution to an approved reuse location. This requirement is consistent with the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and EPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse" EPA # 430/09-91-022, September 1991 and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

Where ultraviolet light is utilized for disinfection, a design UV dose of 100 mJ/cm² under maximum daily flow shall be used. This dose shall also be based on continuous monitoring of UV lamp intensity, UV transmittance and UV flow rate. All aspects of the UV system shall meet the requirements of the December 2000 National Water research Institute's Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse and the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse."

Fecal coliform concentrations shall not exceed 400 fecal coliforms per 100 mL at any given time (as an instantaneous maximum level). Fecal coliform concentrations shall also meet a weekly (7 day) median value of 200 fecal coliforms per 100 mL. This is consistent with a report entitled "Regulations Governing Agricultural Use of Municipal Wastewater and Sludge", National Academy Press, Washington, D.C. 1996, Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

RWBR limitations shall not exceed a total nitrogen (NO₃ + NH₃) concentration of 10.0 mg/L. This is the Ground Water Quality Standard (as per N.J.A.C. 7:9-6) and consistent with the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse." This requirement only applies when RWBR is land applied, however, this requirement does not apply to spray irrigation within a fenced perimeter or otherwise restricted area. The permittee may demonstrate that a concentration greater than 10 mg/l is protective of the environment by submitting and receiving approval of the information stated in the Engineering Report section of the "Technical Manual for Reclaimed Water for Beneficial Reuse."

3. Effluent Limitations and Monitoring Requirements for Distribution of Reclaimed Water for Beneficial Reuse for **Restricted Access – Construction and Maintenance Operations and Restricted Access – Industrial Systems**

When the permittee distributes RWBR to an approved reuse location, the surface water discharge effluent limitations contained in Part III of this permit and requirements for Construction and Maintenance Operation Systems and/or Industrial Systems reuse identified in Part IV of this permit shall be met.

Other Applicable Conditions for RWBR:

The following conditions are consistent with the requirements of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and the EPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse" EPA # 430/09-91-022, September 1991 and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

Only reclaimed water meeting high level treatment and the conditions detailed in the approved Operations Protocol shall be diverted for beneficial reuse. Diversion of acceptable quality reclaimed water to the reuse location shall occur only during periods of operator presence, unless other provisions for increased facility reliability are detailed in the Operations Protocol. The Operations Protocol must be reviewed and updated as

required. Changes to the Operations Protocol must be submitted to the Department and approved by the Department prior to implementation. Reclaimed water produced at the treatment facility that fails to meet the criteria established in the Operations Protocol shall not be diverted for beneficial reuse and must instead, be discharged in compliance with the NJPDES/DSW permitted outfall.

The application of reclaimed water shall not produce surface runoff or ponding of the reclaimed water. Land application sites shall not be frozen or saturated when applying RWBR. All setback distances shall be consistent with the requirements of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse".

The permittee must post advisory signs designating the nature of the project in the area where beneficial reuse is practiced. Examples of methods for notification are identified in the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse".

No cross-connections to potable water systems shall be allowed. All reuse system valves and outlets must be appropriately tagged or labeled to warn the public and employees that the water is not intended for drinking. All piping, pipelines, valves, and outlets must be color coded, or otherwise marked, to differentiate reclaimed water from domestic or other water, as detailed in the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse".

The permittee is required to submit a Beneficial Reuse Annual Report on February 1 of each year. The annual report shall compile the total flow of reuse water distributed to each approved reuse site for each approved type of reuse for the previous calendar year. Specific requirements for the annual report are identified in the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse". In addition a daily log noting the volume of water supplied, the name of the user, date of pick-up, the location and type of reuse (e.g. sewer jetting, landscape irrigation, etc...), and where it is being distributed shall be maintained on-site.

The permittee is required to submit a copy of all Reuse Supplier and User Agreements for existing reuses with its permit application package. Additional Reuse Supplier and User Agreements shall be submitted for each additional user prior to start-up of that use. A Reuse Supplier and User Agreement is a binding agreement between the permittee that supplies the RWBR and the entity that beneficially reuses this water. This agreement is required to ensure that all parties involved work to ensure that construction, operation, maintenance and monitoring of the RWBR system is in compliance with the Technical Manual, all applicable rules and regulations, this permit and the permittee's NJPDES discharge permit. The requirement for submittal of this document is consistent with N.J.A.C. 7:14A-2.11(a). Please note that a Reuse Supplier and User Agreement is not required if the supplier of the RWBR and the user are the same entity.

The permittee is required to submit and receive approval of an Engineering Report in support of RWBR approval requests for new or expanded RWBR projects as detailed in the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse"

L. Polychlorinated Biphenyls (PCB) Monitoring:

The United States Environmental Protection Agency and the International Agency for Research on Cancer have concluded that PCBs are carcinogenic to humans. The primary non-occupational source of human PCB exposure is food, especially fish and shellfish from contaminated waters. PCBs persist in the environment, accumulate in the tissue of fish and other animals, and biomagnify through the food chain. The Department has, therefore, adopted rules at N.J.A.C. 7:14A-11.13 and 14.4 on December 18, 2006 to reduce discharges of PCBs to New Jersey's surface waters from industrial facilities and sewage treatment plants. The regulations at N.J.A.C. 7:14A-11.13 outline the PCB monitoring requirements and the regulations at N.J.A.C. 7:14A-14.4 outline the monitoring frequency requirements.

The *New Jersey 2010 Integrated Water Quality Monitoring and Assessment Report (integrated report)* lists pollutants that are currently not meeting the surface water criteria in stream segments throughout the state. Since

this facility discharges to a subwatershed that is listed as impaired for PCBs under a Fish Advisory in the Integrated Report, more specifically, Sublist 5 of the New Jersey List Of Water Quality Limited Waters (also known as the 303(d) List or as the Impaired Waterbodies List), this facility is subject to the rules at N.J.A.C. 7:14A-11.13 and 14.4.

Since this facility is subject to these rules, the permittee is required to monitor its effluent for the 209 PCB congeners, using EPA Method 1668A. Sampling requirements were established in the renewal permit issued on January 7, 2010 and was to consist of up to 6 samples during a period of 24 months, not to exceed three dry samples and three wet samples. However, the permittee inadvertently used the wrong test method for the samples it had completed. Therefore, in a letter from the Department dated March 20, 2012, the Department extended the due date of the sampling and submittal of the final report to August 1, 2014 in order to allow the permittee to redo the samples with the correct test method, Method 1668A. Samples shall be performed using a 24 hour composite sample method for dry weather events and grab sample for wet weather events.

Based on the results of the monitoring, which is to be submitted to the Department when all sampling is completed, the Department will make a determination regarding whether this facility will be required to develop and implement a PCB Pollutant Minimization Plan, or PMP. The purpose of the PMP is to help identify and eliminate discrete sources of PCBs. A facility discharging at or close to background levels is far less likely than a facility discharging at significantly higher levels to be able to identify discrete sources of PCBs. Therefore, the Department will require PMPs for this facility if it is found to be discharging more elevated levels of PCBs in the effluent, but not if the permittee is discharging PCB levels at or close to background.

The Department has developed a PMP Technical Manual to help permittees with the development of the PMP, which can be found on the Department's web site at <http://www.state.nj.us/dep/dwq/techman.htm>.

If based on the monitoring for PCBs, it is determined that the permittee must develop and implement a PCB PMP, the permittee will be required to submit an Annual PMP Progress Report. These reports will be used to update the Department regarding any revisions to the PMP, measures taken to achieve reductions, and changes to the baseline loading.

These conditions have been incorporated into the permit at Part IV, Section D.

7 Variances to Permit Conditions:

To date, the Department has not received a variance request from the permittee.

Procedures for modifying a water quality based effluent limitation are found in the New Jersey Surface Water Quality Standards, N.J.A.C. 7:9B-1.8 and 1.9. If a water quality based effluent limitation has been proposed in this permit action, the permittee may request a modification of that limitation in accordance with N.J.A.C. 7:14A-11.7(a). This request must be made prior to the close of the public comment period. The information that must be submitted to support the request may be obtained from the Bureau of Water Quality Standards and Assessment at (609) 777-1753.

8 Description of Procedures for Reaching a Final Decision on the DSW Draft Permit Action:

Please refer to the procedures described in the public notice that is part of the draft permit. The public notice for this permit action is published in the *Star Ledger* and in the *DEP Bulletin*.

9 Contact Information

If you have any questions or comments regarding the surface water sections of this draft permit action please contact Teresa Guloy or Dwayne Kobesky, Bureau of Surface Water Permitting at (609) 292-4860.

10 Calculation Equations:

A. Wasteload Allocation: $WLA = C_i \times Df - C_{up}(Df - 1)$

where, WLA = wasteload allocation
 C_i = instream surface water criteria (from N.J.A.C. 7:9B)
 C_{up} = upstream concentration
Df = dilution factor

B. Long Term Average: $LTA = (WLA) \times [WLA \text{ multiplier (LTA)}]$

where, LTA = long term average
WLA = wasteload allocation
WLA multiplier (LTA) = wasteload allocation multiplier for long term average, the 99th percentile multiplier, (see Table 5-1 in TSD, page 102)

C. Maximum Daily Limitation: $MDL = (LTA) \times [LTA \text{ multiplier (MDL)}]$

where, MDL = maximum daily limitation
LTA = long term average
LTA multiplier (MDL) = long term average multiplier for the maximum daily limitation, the 99th percentile multiplier, (see Table 5-2 in TSD, page 103)

D. Average Monthly Limitation: $AML = (LTA) \times [LTA \text{ multiplier (AML)}]$

where, AML = average monthly limitation
LTA = long term average
LTA multiplier (AML) = long term average multiplier for the average monthly limitation, the 99th percentile multiplier, (see Table 5-2 in TSD, page 103)

Permit Summary Table: DSN001A

Unless otherwise noted, all effluent limitations are expressed as maximums. Dashes (--) indicate there is no effluent data, no limitations, or no monitoring for this parameter depending on the column in which it appears.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA (3)	EXISTING LIMITS	FINAL LIMITS	MONITORING	
						Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	3.14 4.4	MR MR	MR MR	Continuous	Continuous
5 Day Biochemical Oxygen Demand (BOD ₅)	kg/d	Monthly Avg. Weekly Avg.	259 318	330 500	330 500	1/Week	24 Hour Composite
5 Day Biochemical Oxygen Demand (BOD ₅)	mg/L	Monthly Avg. Weekly Avg.	23 40	30 45	30 45	1/Week	24 Hour Composite
Influent BOD ₅	mg/L	Monthly Avg. Weekly Avg.	154 176	MR MR	MR MR	1/Week	24 Hour Composite
BOD ₅ Minimum Percent Removal	%	Monthly Avg.	80	85	85	1/Week	Calculated
Total Suspended Solids (TSS)	kg/d	Monthly Avg. Weekly Avg.	147 191	330 500	330 500	1/Week	24 Hour Composite
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Weekly Avg.	13.3 17	30 45	30 45	1/Week	24 Hour Composite
Influent Total Suspended Solids (TSS)	mg/L	Monthly Avg. Weekly Avg.	130 155	MR MR	MR MR	1/Week	24 Hour Composite
TSS Minimum Percent Removal	%	Monthly Avg.	81	85	85	1/Week	Calculated
Fecal Coliform (geometric mean)	# per 100mL	Monthly Avg. Weekly Avg.	11 39	200 400	200 400	4/Month	Grab
Dissolved Oxygen (minimum)	mg/L	Week Av. Min	6.1	4	4	1/Week	Grab
Oil and Grease	mg/L	Monthly Avg. Instant Max.	4.5 6.7	10 15	10 15	1/Month	Grab
Influent Temperature	°C	Instant. Min. Monthly Avg. Instant. Max.	7 20 30	MR MR MR	MR MR MR	2/Day	Grab
Effluent Temperature	°C	Instant. Min. Monthly Avg. Instant. Max.	8 20 31	MR MR MR	MR MR MR	2/Day	Grab
Influent pH	su	Instant. Min. Instant. Max.	6.4 11	MR MR	MR MR	2/Day	Grab
Effluent pH	su	Instant. Min. Instant. Max.	6 8.6	6.0 9.0	6.0 9.0	2/Day	Grab
Ammonia (Total as N) Summer (1)	kg/d	Monthly Avg. Daily Max.	55.1 95	137.7 (4) 203.8 (4)	MR MR	1/Month	24 Hour Composite
Ammonia (Total as N) Summer (1)	mg/L	Monthly Avg. Daily Max.	7.44 8.8	12.5 (4) 18.5 (4)	MR MR	1/Month	24 Hour Composite
Ammonia (Total as N) Winter (1)	kg/d	Monthly Avg. Daily Max.	106 150	MR MR	MR MR	1/Month	24 Hour Composite
Ammonia (Total as N) Winter (1)	mg/L	Monthly Avg. Daily Max.	10.5 12.6	MR MR	MR MR	1/Month	24 Hour Composite
Chlorine Produced Oxidants	kg/d	Month Avg. Daily Max.	1.2 2.5	0.59 (2) 1.43	0.59 (2) 1.43	2/Day	Grab
Chlorine Produced Oxidants	mg/L	Month Avg. Daily Max.	0.1 0.1	0.054 (2) 0.13	0.054 (2) 0.13	2/Day	Grab
Mercury Total Recoverable	g/day	Monthly Avg. Daily Max.	4.1 8.43	8.8 MR	8.8 MR	1/Month	24 Hour Composite
Mercury Total Recoverable	µg/L	Monthly Avg. Daily Max.	0.37 0.7	MR MR	MR MR	1/Month	24 Hour Composite
Acute Toxicity, LC50	% effluent	Minimum	29	34	34	1/Quarter	Composite

Footnotes and Abbreviations:

MR Monitor and report only

- (1) Summer limitations effective from May 1 through October 31. Winter limitations effective from November 1 through April 30.
- (2) The permittee shall comply with the enforceable quantification limit of 0.1 mg/L as a monthly average and daily maximum concentration and 1.1 kg/d as a monthly average and daily maximum loading.
- (3) Wastewater data originates from the information submitted on the monitoring report forms (January 2009 to August 2012).
- (4) Limits stayed by letter dated January 10, 2012.

Table A: Effluent limitation analysis for the Toxic Metals, Organic Compounds, Cyanide, and other pollutants; effluent flow of 2.91 MGD.

Parameter	Data set time period	Number of data points	Coefficient of variation (CV)	Maximum reported data value (µg/L) (1) A	Calculated instream WLA (µg/L) B	"Cause" Y = yes N = no A > B ?	Aquatic criteria LTA (µg/L)	Water quality based limit, if applicable (µg/L)
Bis(2-ethylhexyl) Phthalate	4-2010 to 10-2012	(dt) = 5 (nd) = 7	0.16 (ca)	4.66 (LTAeq)	(hc) = 39.6	(hc) = N	N/A	N/A
Manganese	7-2010 to 1-2013	(dt) = 7 (nd) = 0	0.6 (d)	83 (max)	(h) = 1800	(h) = N	N/A	N/A
Zinc	4-2010 to 10-2012	(dt) = 12 (nd) = 0	0.55 (ca)	132.44* (max)	(a) = 900* (c) = 1458* (h) = 468000**	(a) = N (c) = N (h) = N	N/A	N/A

(1) For human health carcinogen (hc) water quality based calculations, the data set's long-term average equivalent is used instead of the maximum reported data value. For human health carcinogen (hc) existing effluent quality limitations, the maximum reported data value is used.

Footnotes and Abbreviations:

(dt) = Data values detected.
(nd) = Data values non-detected.
(d) = Default CV
(ca) = Calculated from data set.
(max) = Maximum
(LTAeq) = Long Term Average equivalent

(a) = acute aquatic
(c) = chronic aquatic
(h) = human health non-carcinogen
(hc) = human health carcinogen
(*) = Dissolved
(**) = Total Recoverable

LTA = Long Term Average
WLA = Waste Load Allocation
MDL = Maximum Daily Limit
AML = Average Monthly Limit
EEQ = Existing Effluent Quality
N/A = Not Applicable
MR = Monitor and Report

12 Combined Sewer Overflow

A. Receiving Water Discharge Location Information:

A copy of the appropriate section of a USGS quadrangle map indicating the location of the discharge point is included towards the end of this fact sheet.

Outfall Designator: 004A

General Information	Watershed Information
Receiving Water: Hudson River Via : Outfall Pipe Classification (a): SE2(C2) Latitude N: 40° 47' 29" Longitude W: 73° 59' 48" County: Hudson Municipality: North Bergen Township	Downstream Confluences: Upper New York Bay Receiving River Basin: Passaic, Hackensack and New York Harbor Complex WMA (b): Hackensack, Pascack, Hudson (Hudson) Watershed: Hudson River Subwatershed: Hudson River (lower) HUC 14 (c): 02030101170030 Water Quality Impairments (d): Benzo(a)Pyrene (PAHs), Chlordane, DDD, DDE, DDT, Dieldrin, Dioxin (including 2,3,7,8-TCDD), Hexachlorobenzene, Mercury in Fish Tissue and Polychlorinated biphenyls (PCBs)
Outfall Description	
Outfall Configuration: Tidally submerged pipe.	

Footnotes:

- (a) The designated uses for this waterbody classification can be found at N.J.A.C. 7:9B-1.12.
- (b) WMA = Watershed Management Area
- (c) HUC 14 = 14 digit Hydrologic Unit Code
- (d) These parameters are listed on Sublist 5 as impaired for this waterbody as per New Jersey's 2010 Integrated Water Quality Monitoring and Assessment Report (includes 305(b) Report and 303(d) List).

As per the Surface Water Quality Standards at N.J.A.C. 7:9B, the designated uses for Saline Estuary 2 (SE2) receiving waters are:

1. Maintenance, migration and propagation of the natural and established biota;
2. Migration of diadromous fish;
3. Maintenance of wildlife;
4. Secondary contact recreation; and
5. Any other reasonable uses.

B. Combined Sewer Overflow Discharge Description:

This permit also regulates the permittee's discharges from its Combined Sewer Overflow (CSO) outfall from the Combined Sewer System (CSS). CSSs are sewers that were designed many decades ago to collect rainwater and snowmelt runoff, domestic sewage, and industrial wastewater in the same pipe. CSSs are no longer permitted in New

Jersey for new communities, but many older cities in the State continue to operate existing CSSs. Most of the time, the CSSs transport all wastewater to a sewage treatment plant, where it is treated and then discharged to a water body. However, during periods of rainfall or snowmelt, the wastewater volume in a CSS can exceed the hydraulic capacity of the sewer system or treatment plant. For this reason, CSSs were designed to overflow during these periods and discharge excess wastewater directly from CSOs to nearby streams, rivers, or other water bodies prior to reaching the sewage treatment plant.

CSOs often contain high levels of suspended solids, pathogenic microorganisms, toxic pollutants, floatables, nutrients, oxygen-demanding organic compounds, oil and grease, and other pollutants. CSOs can cause exceedances of water quality standards (WQS) which may pose risks to human health, threaten aquatic life and its habitat, and impair the use and enjoyment of the State's waterways.

The North Bergen MUA owns and operates a CSS generally to the east of Bergenline Avenue in North Bergen Township, which is connected to the Woodcliff STP. This CSS services the eastern portion of North Bergen Township (Minisystems NB1 and NB2) and the Town of Guttenberg, and is composed of two (2) mechanical regulators and one (1) CSO outfall designated as DSN004A.

Outfall 004A discharges combined sewage into the Hudson River during wet weather periods when the combined sewage flows exceed the conveyance capacity of the collection system and/or the capacity of the STP. Outfall 004A is located east of the Woodcliff STP, just to the south of Outfall 001A. The North Bergen MUA has sole ownership of the North Bergen Township CSS and the Woodcliff STP.

The two (2) mechanical regulators are designated as NB1-1 and NB1-2. Regulator NB1-1 is located in the crosswalk at the intersection of 73rd Street and JFK Boulevard East in North Bergen Township. During dry weather periods, all wastewater flows passing through the regulator chamber are conveyed through a 15-inch DIP to the Woodcliff STP. Regulator NB1-2 is located approximately 100-feet southeast of the intersection of 74th Street and JFK Boulevard East in North Bergen Township. During dry weather periods, all wastewater flows passing through the regulator chamber are conveyed through an 8-inch CIP to the Woodcliff STP.

During wet weather periods when the conveyance capacity of the collection system and/or the STP is exceeded, excess combined sewage flows pass through the following structures prior to discharge through Outfall 004A:

1. CSO flow regulator(s);
2. Tide gate;
3. ½-inch end-of-pipe netting solids/floatables removal facility; and
4. CSO outfall.

The North Bergen MUA was previously issued individual NJPDES Discharge to Surface Water permits and an Administrative Consent Order (ACO) for the Woodcliff STP, which required compliance with the NMC of the National Policy, including the requirement to capture and remove solids/floatables which cannot pass through a bar screen having a spacing of 0.5-inches. The North Bergen MUA has installed a four-channel 0.5-inch end-of-pipe netting facility at DSN004A, which is currently operational.

The North Bergen MUA also owns and operates another CSS in the western and central portions of North Bergen Township, which was previously connected to the North Bergen MUA's Central Treatment Plant (NJPDES No. NJ0034339). In October 2010, the North Bergen MUA's Central Treatment Plant was closed, and all sewage flows were directed into the Passaic Valley Sewerage Commission's collection system. This CSS is permitted under the Master General NJPDES Permit No. NJ0105023, and Individual NJPDES Authorization No. NJG0108898.

C. Combined Sewer Overflow Control Regulatory and Policy Background:

Historically, the control of CSOs has proven to be extremely complex. This complexity stems partly from the difficulty in quantifying CSO impacts on receiving water quality and the site-specific variability in the volume, frequency, and characteristics of CSOs. In addition, the financial considerations for communities with CSOs can be

significant. The U.S. Environmental Protection Agency (EPA) estimated the CSO abatement costs for the 1,100 national communities served by CSSs to be approximately \$41.2 billion in the May 1995 Combined Sewer Overflows - Guidance for Nine Minimum Controls. In 2008, New Jersey's CSO abatement costs were estimated at \$9.3 billion. See National Clean Watersheds Needs Survey,

<http://water.epa.gov/scitech/datait/databases/cwns/upload/cwns2008rtc.pdf>.

To address these challenges, EPA's Office of Water issued a National Combined Sewer Overflow Control Strategy ("CSO Strategy") on August 10, 1989 (54 Federal Register 37370). Five years later, EPA issued the National CSO Control Policy (National Policy) on April 19, 1994, which remains the current national framework for control of CSOs. The National Policy provides guidance to permittees and state authorities on coordinating the planning, selection and implementation of CSO controls. It promotes a phased approach to the control of CSOs through a series of permits that include progressively more stringent requirements. The National Policy prohibits dry weather overflows and contains provisions for developing appropriate, site-specific NPDES permit requirements for all CSOs. In the Wet Weather Quality Act of 2000, Congress amended the CWA to incorporate the National Policy. As amended, the CWA requires that all permits, orders and decrees issued to regulate combined system overflows must comply with the National Policy. 33 U.S.C.A. § 1342(q)(1). DEP incorporated the National Policy verbatim into its regulations at N.J.A.C. 7:14A-11.12 – Appendix C.

Key Elements of the National CSO Control Policy

The National Policy contains four key principles to ensure that existing and proposed CSO controls are cost-effective and meet the requirements of the CWA. These four principles are:

- Provide clear levels of control that would be presumed to meet appropriate health and environmental objectives;
- Provide sufficient flexibility to municipalities, especially those that are financially disadvantaged, to consider the site-specific nature of CSOs and determine the most cost-effective means of reducing pollutants and meeting CWA objectives and requirements;
- Allow a phased approach for implementation of CSO controls which considers a community's financial capability; and
- Review and revise, as appropriate, WQS and their implementation procedures when developing long-term CSO control plans to reflect the site-specific wet weather impacts of CSOs.

The National Policy requires permittees to implement Nine Minimum Controls (NMCs), and to develop and implement a Long Term Control Plan (LTCP). The NMCs are as listed below.

1. Proper operation and regular maintenance programs for the sewer system and the CSOs,
2. Maximum use of the collection system for storage,
3. Review and modification of pretreatment requirements to assure CSO impacts are minimized,
4. Maximization of flow to the publicly owned treatment works for treatment,
5. Prohibition of CSOs during dry weather,
6. Control of solid and floatable materials in CSOs,
7. Pollution prevention,
8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts, and
9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

There are nine minimum elements of the LTCP. They are:

1. Characterization, monitoring, and modeling activities to serve as the basis for selection and design of effective CSO controls;
2. A public participation process that actively involves the affected public in the decision-making to select long-term CSO controls;

3. Consideration of sensitive areas as the highest priority for controlling overflows;
4. Evaluation of alternatives that will enable the permittee, in consultation with the NPDES permitting authority, WQS authority, and the public, to select CSO controls that will meet CWA requirements;
5. Cost/performance considerations to demonstrate the relationships among a comprehensive set of reasonable control alternatives;
6. Operational plan revisions to include agreed-upon long-term CSO controls;
7. Maximization of treatment at the existing POTW treatment plant for wet weather flows;
8. An implementation schedule for CSO controls; and
9. A post-construction compliance monitoring program adequate to verify compliance with water quality-based CWA requirements and ascertain the effectiveness of CSO controls.

In New Jersey, the CSO Strategy, and later, National Policy have been implemented, in part, through NJPDES Master General Permit (MGP) (NJ0105023) for Combined Sewer Systems. Most of the CSSs in the State were regulated under General Permit Authorizations issued under the MGP, however some CSSs continued to be regulated under individual NJPDES permits. In addition, some CSO controls were required under other enforceable documents, such as Administrative Consent Orders or Judicial Consent Orders. The North Bergen MUA's Woodcliff STP CSO continues to be regulated solely under an individual permit.

The 2004 MGP reflected the Department's intention to allow the CSO permittees to integrate the results of ongoing TMDL studies into their LTCPs. The TMDL water quality studies were intended to help develop water quality goals for the receiving waters, identify CSO and non-CSO sources of pollution, and identify load reduction objectives and allocations through establishment of TMDLs for pathogens, nutrients and other pollutants determined to be responsible for the impairments. As indicated in the Fact Sheet that accompanied the 2004 MGP, the Department did not intend to require the permittees to develop and implement all elements of the LTCP until the TMDLs for pathogens were established.

The Department expected that the TMDL studies would have been completed during the lifetime of the 2004 MGP. However, the studies were not completed until after the MGP expired. Further, on March 15, 2012, EPA provided DEP with a draft of the water quality study and associated documentation that was intended to provide the basis for the pathogens TMDL in the NY/NJ Harbor. After reviewing the draft water quality study, the Department determined that it was technically deficient, and that the Department could not move forward with the TMDL for pathogens at that time. Rather than continue to wait for an acceptable water quality study and for TMDLs to be adopted, the Department has determined that it is necessary to move forward on individual permits requiring permittees to develop and implement all elements of the LTCP at this time. Thus, the Department has determined that it is no longer appropriate to control CSOs through a MGP and is issuing individual permits in a phased approach in order to address the site-specific conditions of each of the permittees and to promote better coordination of a LTCP among all permittees contributing to the hydraulically connected system.

Since the inception of the Department's CSO program, 64 CSO points in New Jersey have been eliminated. Permittees have put into place solids/floatables control measures for at least 183 CSO points. The control measures for the remaining CSO points are in various stages of construction. These solids and floatables control facilities currently capture, remove, or otherwise prevent the discharge of an estimated 700 tons of solids and floatables material per year. The New Jersey Environmental Infrastructure Financing Program, through a partnership with DEP and the New Jersey Environmental Infrastructure Trust has helped finance much of this work by funding over \$1.4 billion for CSO abatement projects.

Specifically, the North Bergen MUA and Town of Guttenberg have performed the following studies:

North Bergen MUA:

- North Bergen MUA Public Participation Report, prepared by Hatch Mott MacDonald, dated April 2007.
- Cost & Performance Analysis Report for the North Bergen Municipal Utilities Authority, prepared by Boswell McClave Engineering in association with HydroQual Inc., dated March 2007.

- North Bergen Municipal Utilities Authority CSO Characterization Study, Final Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated March 2005.
- North Bergen Municipal Utilities Authority CSO Characterization Study, Supporting Laboratory Data, prepared by Hatch Mott MacDonald, dated March 2005.
- North Bergen Municipal Utilities Authority CSO Characterization Study Group 2 – Dry Weather Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated June 2003.
- North Bergen Municipal Utilities Authority CSO Characterization Study Group 1 – Dry Weather Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated March 2003.
- Combined Sewer Overflow Characterization Study, Quality Assurance/Work Plan, for the North Bergen Municipal Utilities Authority, prepared by Hatch Mott MacDonald, dated November 2002.
- North Bergen Township Sewer Mapping and Flow Monitoring Study, prepared by Metcalf & Eddy, December 1992.

Town of Guttenberg:

- Town of Guttenberg Public Participation Report, prepared through the NJ CSO Group by Hatch Mott MacDonald dated April 2007;
- Town of Guttenberg Cost and Performance Analysis, prepared by Schoor DePalma, Inc., in conjunction with HydroQual, Inc., dated March 30, 2007;
- CSO Discharge Characterization Study, Monitoring Program Proposal and Quality Assurance/Work Plan for the Town of Guttenberg, prepared by Killam, dated December 1996: and
- CSO Characterization Study, Interim Service Area Drainage and Land Use Report for the Town of Guttenberg, prepared by Killam, dated November 1996.

Two permittees (North Bergen MUA and the Town of Guttenberg) own separate portions of a hydraulically connected combined sewer system, and any changes to the system, or CSO controls that are implemented by one of these permittees will likely affect the CSO discharges in other portions of the hydraulically connected combined sewer system. Additionally, these collection systems flow to the Woodcliff STP, which is owned by the North Bergen MUA. Therefore, the Department requires that the North Bergen MUA work cooperatively with the Town of Guttenberg in the hydraulically connected combined sewer system to ensure that the data collected is used consistently in the development of the LTCP and can be documented to achieve overall water quality benefits.

Further, the Department strongly encourages the permittees to combine their resources to develop and submit a single LTCP on behalf of the permittees in the hydraulically connected combined sewer system.

The Department recognizes that the development of such a single comprehensive LTCP among multiple entities will require extensive coordination and cooperation and, as such, will consider requests to extend the compliance schedule for the submittal of the single, comprehensive LTCP.

This permit contains conditions necessary to implement the National Policy pursuant to the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., Sewage Infrastructure Improvement Act, N.J.S.A. 58:25-23 et seq., and the Clean Water Act, 33 U.S.C. 1251 et seq., and the regulations promulgated pursuant thereto, N.J.A.C. 7:14A, specifically, N.J.A.C. 7:14A-11.12, Appendix C.

D. Summary of Combined Sewer Overflow Permit Conditions:

1. Nine Minimum Controls:

This permit requires that the permittee continue to comply with all of the Nine Minimum Controls (NMCs), as listed below.

- a. Proper operation and regular maintenance programs for the sewer system and the CSOs,
- b. Maximum use of the collection system for storage,
- c. Review and modification of pretreatment requirements to assure CSO impacts are minimized,

- d. Maximization of flow to the publicly owned treatment works for treatment,
- e. Prohibition of CSOs during dry weather,
- f. Control of solid and floatable materials in CSOs,
- g. Pollution prevention,
- h. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts, and
- i. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

The NMCs are identified in the National Policy as minimum technology-based controls that can be implemented to address CSOs without extensive engineering studies or significant construction costs, prior to the implementation of long-term control measures. As described in the National Policy, permittees were to implement the NMCs as the first steps in controlling discharges from CSOs. EPA has prepared a document to guide permittees on how to implement the NMCs and document implementation. The document, Guidance for Nine Minimum Controls, can be found at <http://www.epa.gov/npdes/pubs/owm0030.pdf>.

Permittees are encouraged to be creative and explore innovative and cost-effective measures in implementing the NMCs to address their specific CSOs. The NMCs are not necessarily distinct and separate from one another. Many control measures can address and facilitate more than one of the controls at the same time (e.g., street sweeping can address both the "Control of Solids/Floatables" and the "Pollution Prevention" controls). With the assistance of the guidance document referenced above, permittees should continue to plan and pursue control measures that can achieve the ultimate goal of reducing overall CSO impacts in a holistic manner. Based upon the evaluation of the implementation of the NMCs, the Department has included enhancements in order to clarify requirements consistent with the National Policy. A brief description of the NMCs under this permit follows.

a. Proper Operation and Regular Maintenance Program Requirements

Under an Administrative Consent Order (a Combined Sewer Overflow Pollution Prevention Plan (CSOPPP) and a Proper Operation & Maintenance Plan and Manual were required), and consistent with state and federal regulations, (N.J.A.C. 7:14A-6.12 and 40 CFR 122.41(e)), the permittee was required to develop and maintain a current Operations and Maintenance (O&M) Plan and Manual for their contributory collection system to the CSO outfall. The Plan and Manual were to demonstrate that the permittee has made or will make all the necessary financial, administrative and institutional arrangements to meet the requirements of the permit. The Department has determined that it is necessary to provide more detail in the permit, consistent with EPA Guidance, on the necessary components of an O & M Program and Manual. Under this proposed permit action, the permittee is required to continue to implement and update annually as necessary, an Operations & Maintenance (O&M) Program (and corresponding Manual), Emergency Plan, detailed Standard Operating Procedures (SOPs) and an Asset Management Plan to ensure that the treatment works, which are owned and/or operated by the permittee, are operated and maintained in a manner that achieves compliance with all terms and conditions of this permit. For example, SOPs are required to be developed to ensure that the permittee:

- i. Conduct visual inspections to provide that unpermitted discharges, obstructions, damage and dry weather overflows will be discovered,
- ii. Provides a system for documenting, assessing, tracking and addressing residential complaints regarding blockages and other situations that lead to flooding of basements, streets and other public and private areas,
- iii. Provides for ongoing infiltration and inflow (I/I) reduction strategies through the identification of sources and implementation of I/I reduction projects,
- iv. Includes Asset Management planning, addressing such measures as infrastructure inventory with infrastructure repair/replacement needs listed and scheduled according to priority/criticality, and
- v. Includes under the Emergency Plan: a plan for addressing a wide range of emergencies, including procurement for energy (fuel oil, electricity) and replacement parts.

The permittee shall provide an updated accurate characterization on a GIS map (including the capacity, dimensions, age, type of material, etc.) of the entire collection system owned and/or operated by the permittee that conveys flows to the treatment. The permittee shall also review its rules, ordinances and sewer use agreements with its customer and/or upstream municipalities and revise if necessary to require them to identify I/I and reduce where appropriate, and to identify and eliminate interconnections and cross-connections in storm sewers. More specifically, the SOPs shall specify the operation, inspection, scheduled preventive maintenance and timely repairs required to ensure that the entire collection system conveys flows to the treatment works properly.

b. Maximum Use of the Collection System for Storage

Under this proposed permit action, the permittee shall identify and implement minor modifications to enable the entire collection system owned/operated by the permittee that conveys flows to the treatment works to store additional wet weather flows to reduce any sewage overflows until downstream sewers and treatment facilities can adequately convey and treat the flows, while not creating or increasing sewage overflows to basements, streets and other public and private areas.

Furthermore, the permittee will be required to minimize the introduction of sediment and obstructions and regularly remove any impediments to flows within the system and to identify and implement minor modifications to enable the entire collection system owned/operated by the permittee that conveys flows to the treatment works to store additional wet weather flows to minimize CSO discharges (volume, frequency and duration), while not creating or increasing sewage overflows to basements, streets and other public and private areas, until downstream sewers and treatment facilities can adequately convey and treat the flows.

c. Review and Modification of Pretreatment Requirements to Assure CSO Impacts are Minimized

Under North Bergen MUA's individual NJPDES Discharge to Surface Water permit, the permittee was required to explore various options to minimize discharges of non-domestic users during wet weather periods. However, only delegated local agencies (DLAs) are authorized to review and modify pretreatment requirements. Since the permittee is not a DLA, it is not authorized to review and modify pretreatment program requirements.

Under this proposed permit action, North Bergen MUA is required to determine the discharge nature and to prioritize the potential environmental impact(s) of the Significant Indirect Users (SIUs); and include this information in the characterization portion of its Operation & Maintenance Program. The permittee is required to do this for the entire collection system, since the permittee's CSO is at the end of the collection system.

d. Maximization of Flow to the POTW for Treatment

Under North Bergen MUA's individual NJPDES Discharge to Surface Water permit, the permittee was required to operate and maintain the facilities to maximize the conveyance of wastewater to the STP for treatment and to minimize the frequency and duration of CSOs to the receiving waters. Under this proposed permit action, this requirement is continued and the permittee is also required to evaluate and implement low-cost alternatives for increasing the flow to the STP, based upon capacity evaluations of the permittee's collection system.

e. Prohibition of CSOs during Dry Weather

Dry weather overflows (DWOs) are prohibited from the permittee's CSO outfall. Under this proposed permit action, the permittee is required to inspect the combined sewer system as part of its Operation & Maintenance Program to ensure there are no DWOs. Additionally, the permittee shall prohibit any connections, including but not limited to construction dewatering, remediation activities or similar

activities, downstream of a CSO regulator that will convey flow to the CSO during dry weather. On a case-by-case basis, the Department reserves the right to allow temporary use of the CSO outfall structures for other types of discharges to address extraordinary circumstances.

f. Control of Solids and Floatable Material in CSOs

Under an Administrative Consent Order, the permittee was required to capture and remove solids/floatables from the CSO discharges. The permittee has accomplished this through the installation of a four-channel 0.5-inch end-of-pipe netting facility at DSN004A, which is currently operational. The Department recognizes that the introduction of solids and floatable materials is also regulated under other Department programs, such as the Statewide Mandatory Source and Recycling Act, N.J.S.A. 13:1E-99.11 et seq. Under this proposed permit action, the requirement to remove solids/floatables is continued and the permittee will also be required to report the amount of solids/floatables captured and removed from the CSO discharges. Additionally, the permittee is required to reduce solids/floatables from entering the collection system through pollution prevention measures, such as street sweeping and storm inlet retrofitting.

g. Pollution Prevention

Under an Administrative Consent Order, the permittee was required to develop, implement, and maintain a Combined Sewer Overflow Pollution Prevention Plan (CSOPPP). The CSOPPP required documentation of the procedures used to develop, evaluate and implement interim and long term solids/floatables control measures among other things. Under this proposed permit action, the permittee will be required to continue to implement and upgrade pollution prevention measures necessary to prevent and limit contaminants from entering the entire collection system owned and/or operated by the permittee including: implementation of a regular street cleaning program, implementation of stormwater pollution prevention rules and ordinances, implementation of solid waste collection and recycling ordinances, and implementation of public education programs. Measures shall also include the retrofitting of storm drain inlets such that each horizontal grate meets the specifications for maximum opening size. In addition, the permit requires the permittee to extend applicable stormwater management practices, ordinances and rules to combined sewer areas of their towns. This would mean the permittee should apply the same ordinances and rules in the combined sewer areas of the municipality as they apply in the separately sewer areas, for example for retrofitting the stormwater inlets and ensuring that the same street sweeping schedule applies to all streets in the town, regardless of how the area is sewer. The Department expects that many affected municipalities have already extended some of these stormwater requirements to CSO areas.

h. Public Notification to Ensure that the Public Receives Adequate Notification of CSO Occurrences and CSO Impacts

The permittee is presently required to tag its CSO outfall. Under this proposed permit action, the Department is requiring enhanced signage and notification requirements to ensure public notification. The permittee will be required to post a CSO Identification Sign (minimum 18" x 24") constructed out of reflective material at its CSO outfall location providing its NJPDES Permit No., Discharge Serial No., phone numbers of the permittee and the NJDEP Hotline with language to report any dry weather discharges or discharges with foul odors or discoloration, and a general statement that there may be sewage overflows during and following wet weather with the possibility that contact with the water may cause illness. The permittee shall also employ measures such as the posting of leaflets/flyers/signs at affected use areas (i.e., beaches, marinas, docks, fishing piers, etc.), and/or notifying residents by either the US Postal Service or email describing what CSOs are, the location of the CSO outfall, and public health and safety information. Furthermore, the permittee shall create and maintain on a daily basis a telephone hot line or website to provide immediate/up-to-date information regarding when CSO discharges may be occurring.

i. Monitoring to Effectively Characterize CSO Impacts and the Efficacy of CSO Controls

Under an Administrative Consent Order, the permittee was required to characterize its CSO discharges for quality, flow volume, duration, and frequency sufficient to calibrate and validate a computer model to predict the response of the permittee's CSO system to varied precipitation events. Under this proposed permit action, the permittee is required to update the characterization information as described above and monitor the CSO discharge events and record the date, time, duration, precipitation, and weight/volume of solids/floatables removed for each CSO discharge event through appropriate modeling or by an appropriately placed flow meter/totaling device, level sensor, or other appropriate measuring device, and report the required information on the DMR as required by Part III of this permit.

2. Long Term Control Plan (LTCP):

This permit contains requirements for the permittee to develop and submit a final LTCP on or before the Effective Date of the Permit + three (3) years. The permittee may utilize information collected under previous permits to the extent that they are accurate and representative of a properly operated and maintained sewer system and meet the current requirements, such as:

North Bergen MUA:

- North Bergen MUA Public Participation Report, prepared by Hatch Mott MacDonald, dated April 2007.
- Cost & Performance Analysis Report for the North Bergen Municipal Utilities Authority, prepared by Boswell McClave Engineering in association with HydroQual Inc., dated March 2007.
- North Bergen Municipal Utilities Authority CSO Characterization Study, Final Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated March 2005.
- North Bergen Municipal Utilities Authority CSO Characterization Study, Supporting Laboratory Data, prepared by Hatch Mott MacDonald, dated March 2005.
- North Bergen Municipal Utilities Authority CSO Characterization Study Group 2 – Dry Weather Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated June 2003.
- North Bergen Municipal Utilities Authority CSO Characterization Study Group 1 – Dry Weather Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated March 2003.
- Combined Sewer Overflow Characterization Study, Quality Assurance/Work Plan, for the North Bergen Municipal Utilities Authority, prepared by Hatch Mott MacDonald, dated November 2002.
- North Bergen Township Sewer Mapping and Flow Monitoring Study, prepared by Metcalf & Eddy, December 1992.

Town of Guttenberg:

- Town of Guttenberg Public Participation Report, prepared through the NJ CSO Group by Hatch Mott MacDonald dated April 2007;
- Town of Guttenberg Cost and Performance Analysis, prepared by Schoor DePalma, Inc., in conjunction with HydroQual, Inc., dated March 30, 2007;
- CSO Discharge Characterization Study, Monitoring Program Proposal and Quality Assurance/Work Plan for the Town of Guttenberg, prepared by Killam, dated December 1996; and
- CSO Characterization Study, Interim Service Area Drainage and Land Use Report for the Town of Guttenberg, prepared by Killam, dated November 1996.

As stated above, since multiple municipalities/permittees own portions of a hydraulically connected combined sewer system, the Department requires that the permittee work cooperatively with all other appropriate municipalities/permittees in the hydraulically connected combined sewer system to ensure that the data is used consistently in the development of the LTCP and can be documented to achieve overall water quality benefits. The Department encourages a single LTCP be developed and submitted on behalf of all of the permittees in a hydraulically connected combined sewer system. For example, the Department supports the permittee

combining their resources with the Town of Guttenberg in the development of a single LTCP to address this permit requirement.

The National Policy lists nine elements that must be addressed in the LTCP. The National Policy also encourages permittees to develop, and permit writers to evaluate LTCPs on a watershed management basis. Permittees should evaluate all sources of pollution (e.g., point sources, CSOs, storm water) during system characterization and, wherever possible, develop control strategies on a watershed basis in coordination with the NPDES permitting authority.

This permit allows for the submittal of the LTCP in three steps. EPA has prepared a document to provide guidance to permittees on the development of the Long Term Control Plans and how to document the implementation. This document can be found at <http://www.epa.gov/npdes/pubs/owm0272.pdf>

As listed in the National Policy, the nine elements of the LTCP are:

- a. Characterization, monitoring, and modeling activities as the basis for selection and design of effective CSO controls;
- b. A public participation process that actively involves the affected public in the decision-making to select long-term CSO controls;
- c. Consideration of sensitive areas as the highest priority for controlling overflows;
- d. Evaluation of alternatives that will enable the permittee, in consultation with the NPDES permitting authority, WQS authority, and the public, to select CSO controls that will meet CWA requirements;
- e. Cost/performance considerations to demonstrate the relationships among a comprehensive set of reasonable control alternatives;
- f. Operational plan revisions to include agreed-upon long-term CSO controls;
- g. Maximization of treatment at the existing POTW treatment plant for wet weather flows;
- h. An implementation schedule for CSO controls; and
- i. A post-construction compliance monitoring program adequate to verify compliance with water quality-based CWA requirements and ascertain the effectiveness of CSO controls.

The Department has grouped the LTCP submittal requirements into 3 steps, in accordance with EPA's LTCP planning approach outlined in the Guidance for Long Term Control Plans. The LTCP shall consist of the following steps and be submitted according to the schedule in the permit.

Step 1 entails the development and submittal of the Sewer System Characterization Work Plan and final report as well as the creation of the Public Participation Process and identification, evaluation and prioritization of the Sensitive Areas. This step also entails understanding the water quality standards as they apply to the receiving water for the CSO and how achievement of those standards will affect the choice of the CSO control measures. The workplan is being required to ensure that all permittees of the hydraulically connected system conduct and update the characterization using a coordinated approach that will result in a comprehensive and integrated sewer system characterization. While the permittee has conducted characterization work under an Administrative Consent Order, it will be necessary to update the information from previous studies to incorporate modifications in the collection system and requirements under this permit. This Work Plan is required to be submitted three (3) months after the effective date of the permit and the final Sewer System Characterization Report, along with the Public Participation Process and the Consideration of Sensitive Areas information is then due one (1) year after the effective date of the permit.

Based upon the information gathered under Step 1, Step 2 will entail the development and evaluation of the CSO control alternatives described below, that at a minimum will enable the permittee, in consultation with the Department's NJPDES program, the water quality standards program, and the public to select CSO control measures that will meet the Clean Water Act requirements. The Development and Evaluation of Alternatives Report required for Step 2 is to be submitted two (2) years after the effective date of the permit.

Step 3 entails the final selection and implementation schedule of the agreed upon LTCP CSO control measures as well as the Compliance Monitoring Program (CMP). The CMP will require monitoring of the discharges and the receiving waters prior to, and at various intervals during, the implementation of the LTCP to evaluate the effectiveness of the ongoing CSO control measures. This step will also entail concurrent revisions to the O&M Program and Manual as control measures are implemented. The permittee is required to submit an approvable Selection and Implementation of Alternatives Report three (3) years after the effective date of the permit.

A brief description of the LTCP requirements in the permit follows.

a. Characterization, Monitoring and Modeling of the Combined Sewer System

Under an Administrative Consent Order, the permittee was required to submit a Combined Sewer Overflow Discharge Characterization Study consisting of a field calibrated and verified Combined Sewer Overflow Model designed to represent the combined sewer system's response to historical events of precipitation. Under this proposed permit action, the permittee will be required to submit an updated characterization study of the combined sewer system to: establish the existing baseline conditions, evaluate the efficiency of the technology based controls, determine the baseline condition upon which the LTCP will be based and uniformly characterize the hydraulically connected system with respect to the requirements of this permit, specifically the number of events as defined in this permit.

b. Public Participation Process

Under North Bergen MUA's individual NJPDES Discharge to Surface Water permit, the permittee was required to implement a Public Participation Program that would ensure the opportunity for participation by the public in the LTCP development process. Under this proposed permit action, the permittee will be required to submit an updated Public Participation Plan and to involve the public in the decision making process in determining the alternatives chosen under the LTCP.

c. Consideration of Sensitive Areas

Under this proposed permit action, the permittee will be required to give the highest priority to controlling overflows in sensitive areas. The LTCP shall prohibit increased CSO overflows and eliminate/relocate CSO overflows in sensitive areas. If elimination/relocation is not possible, the permittee shall provide treatment necessary to meet the WQS.

d. Evaluation of Alternatives

Under North Bergen MUA's individual NJPDES Discharge to Surface Water permit, the permittee was required to evaluate specific alternative interim and long term control measures for the control of pathogens and to formulate cost and performance relationships for treatment of CSO discharges. Under this proposed permit action, the permittee will be required to evaluate a broader range of control alternatives that meet the CWA requirements and provide attainment of the WQS using either the Presumption Approach or the Demonstration Approach. The control alternatives shall include: green infrastructure, increased storage in the collection system, STP expansion/storage, I/I reduction, sewer separation, discharge treatment and bypass of secondary treatment at the STP.

When evaluating the alternatives for the LTCPs, the permittee may use one of two approaches:

- 1) 'The Presumption Approach' in which the permittee chooses to implement a minimum level of treatment (e.g., 4 or less overflow events per year, or at least 85 percent removal of volume/mass of the collected combined sewage flows) that is presumed to meet the water quality-based requirements

of the CWA, unless data indicate otherwise. The "Presumption" Approach, in accordance with N.J.A.C 7:14A-11 Appendix C provides the below:

A program that meets any of the criteria listed below will be presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the Department determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas described above.

- i. No more than an average of four overflow events (see below) per year from a hydraulically connected system as the result of a precipitation event that does not receive the minimum treatment specified below. These four overflow events shall be calculated over a 60 month rolling average, provided that the Department may allow up to two additional overflow events per year. For the purpose of this criterion, an 'event' is:
 - In a hydraulically connected system that contains only one CSO outfall, multiple periods of overflow are considered one overflow event if the time between periods of overflow is no more than 24 hours.
 - In a hydraulically connected system that contains more than one CSO outfall, multiple periods of overflow from one or more outfalls are considered one overflow event if the time between periods of overflow is no more than 24 hours without a discharge from any outfall.
- ii. The elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis.
- iii. The elimination or removal of no less than the mass of the pollutants, identified as causing water quality impairment through the sewer system characterization, monitoring, and modeling effort, for the volumes that would be eliminated or captured for treatment under Section d.1.ii.above.

Combined sewer overflow remaining after implementation of the NMCs and within the criteria specified in Sections ii. and iii. above, shall receive minimum treatment in accordance with the items below.

- Primary clarification (Removal of floatables and settleable solids may be achieved by any combination of treatment technologies or methods that are shown to be equivalent to primary clarification.).
- Solids and floatables disposal.
- Disinfection of effluent, if necessary, to meet WQS, protect designated uses and protect human health, including removal of harmful disinfection chemical residuals, where necessary.

OR

- 2) The 'Demonstration Approach' in which the permittee demonstrates that its plan is adequate to meet the water quality-based requirements of the CWA. The "Demonstration" Approach, in accordance with N.J.A.C. 7:14A-11 Appendix C provides the below.

A permittee may demonstrate that a selected control program, though not meeting the criteria specified under the Presumption Approach, is adequate to meet the water quality-based requirements of the CWA. The permittee must demonstrate each of the following below.

- i. The planned control program is adequate to meet WQS and protect designated uses, unless WQS or uses cannot be met as a result of natural background conditions or pollution sources other than CSOs.
- ii. The CSO discharges remaining after implementation of the planned control program will not preclude the attainment of WQS or the receiving waters' designated uses or contribute to their impairment.
- iii. The planned control program will provide the maximum pollution reduction benefits reasonably attainable.
- iv. The planned control program is designed to allow cost effective expansion or cost effective retrofitting if additional controls are subsequently determined to be necessary to meet WQS or designated uses.

The permittee will be required to evaluate a range of CSO control alternatives, based on their practical and technical feasibility, and the water quality benefits of constructing and implementing various remedial controls and combinations of such controls. The permittee should be prepared to address any future changes in the WQS. For example, on November, 26, 2012, EPA recommended new recreational water quality criteria for pathogens. The Department will be evaluating these new criteria and considering a proposal to incorporate them within the next three (3) years.

The permit requires the permittee to consider at least the following:

- i. Green infrastructure which allows for stormwater management close to its source, providing both water quality treatment and some volume control. The volume that is retained onsite and kept out of the sewer system can help delay expensive gray infrastructure maintenance and upgrades. Some examples of green infrastructure measures include, but are not limited to, pervious pavements, street bump-outs, rain gardens, and tree trenches.
- ii. Increased storage capacity in the collection system to store the wastewater until the sewage flows subside sufficiently for the downstream sewers to be able to transport the flow to the STP for treatment;
- iii. STP expansion and/or storage at the plant. Based on information provided by the STP, an evaluation of the capacity of the unit processes must be conducted at the STP and a determination made of whether there is any additional treatment capacity available at the STP. The permittee shall use this information and determine (modeling may be used) the amount of CSO discharge reduction that would be achieved by utilizing the additional treatment capacity while maintaining compliance with all permit limits;
- iv. I/I reduction in the entire collection system that conveys flows to the treatment works. I/I reduction can free up storage capacity or conveyance in the sewer system and/or treatment capacity at the STP. The permittee shall determine the amount of CSO discharge reduction that could be achieved and the feasibility of implementing in the entire system or portions thereof;
- v. Sewer separation through construction of new sewer lines to separate and remove the stormwater from the sanitary sewer system;
- vi. CSO discharge treatment at individual CSO outfalls; and
- vii. Providing CSO related bypasses of the secondary treatment portion of the STP in accordance with the National Policy.

The National Policy encourages permittees to consider the use of a bypass of secondary treatment in the evaluation of alternatives. The intentional diversion of waste streams from any portion of a treatment facility, including secondary treatment, is considered a bypass. EPA bypass regulations at 40 CFR 122.41(m) allow for a facility to bypass some or all the flow from its treatment process under specified limited circumstances. Under the regulation, the permittee must show that the bypass was unavoidable to prevent loss of life, personal injury or severe property damage, there was no feasible alternative to the bypass and the permittee submitted the required notices. In addition, the regulation provides that a bypass may be approved only after consideration of adverse effects.

Under the National Policy, a CSO-related bypass of the secondary treatment portion of the POTW treatment plant for combined sewer flows may be an appropriate alternative for CSO controls that can be considered in certain limited circumstances. For example, EPA suggests that a bypass can be justified if:

- the permittee can demonstrate that the secondary treatment system is properly operated and maintained;
- the system has been designed to meet secondary limits for flows greater than the peak dry weather flow, plus an appropriate quantity of wet weather flow;
- it is either technically or financially infeasible to provide secondary treatment at the existing facilities for greater amounts of wet weather flow; and
- the permittee can ensure that the discharge will not cause exceedances of WQS.

Further, in order for the Department to consider a by-pass as a feasible alternative under the LTCP the permittee must address compliance with the requirements of all other applicable regulations, such as N.J.A.C. 7:14A, N.J.A.C. 7:9B, and N.J.A.C. 7:15. N.J.A.C. 7:14A-23.13(m) prohibits plant designs that propose the use of bypass lines which would circumvent treatment units and allow untreated or partially treated wastewater to be discharged. The Department recognizes that the rule would need to be modified in order to allow bypasses as part of an approved LTCP.

The permittee may refer to Combined Sewer Overflows - Guidance for Long-Term Control Plan (EPA 832-B-95-002) for further information on these alternatives.

e. Cost Performance Considerations

Under North Bergen MUA's individual NJPDES Discharge to Surface Water permit, the permittee was required to develop a cost and performance analysis report for specific control alternatives for its CSO. Under this proposed permit action, the permittee will be required to update and submit cost/performance considerations to determine where the increment of pollution reduction diminishes compare to the increased cost, often known as "knee of the curve". If the permittee chooses the Presumption Approach of no more than an average of 4 discharge events per year, the permittee is not required to conduct analysis for the other events (i.e. 0, 7, 10, 20). The permittee can use previous studies in developing cost/performance considerations to the extent that the studies meet the requirements of this permit.

f. Operational Plan

Under this proposed permit action, the permittee will be required to modify the O&M Program and Manual to address the final LTCP CSO control facilities and operating strategies.

g. Maximizing Treatment at the Existing STP

Under North Bergen MUA's individual NJPDES Discharge to Surface Water permit, the permittee will be required to investigate the control alternative of maximizing treatment of the combined sewage flow through the STP, including the alternative of bypassing secondary treatment at the STP.

h. Implementation Schedule

Under this proposed permit action, the permittee will be required to submit a construction and financing schedule for implementation of the LTCP CSO controls. The schedule may be phased and shall consider: addressing areas of overflows, discharges to sensitive areas as highest priority, use impairment of receiving waters, permittee's financial capability, grant/loan availability, user fees and rate structures, funding mechanisms and resources necessary to implement an asset management plan.

As noted in the National Policy, permittees are required to develop and submit their LTCPs "as soon as practicable, but generally within two (2) years after the date of the NPDES permit provision, Section 308 information request, or enforcement action requiring the permittee to develop the plan." However, "NPDES authorities may establish a longer timetable for completion of the long-term CSO control plan on a case-by-case basis to account for site-specific factors which may influence the complexity of the planning process."

New Jersey has determined that due to the fragmented nature of the CSS ownership in this hydraulically connected sewer system, and the extreme complexities of integrated sewer systems involving multiple municipalities and associated interdependent outfalls, that a compliance schedule of 36 months is appropriate. However, as noted above, if the permittees work cooperatively to develop one LTCP, the Department will consider extending the compliance schedule for submittal of the final LTCP.

i. Compliance Monitoring Program (CMP)

Under an Administrative Consent Order, the permittee was required to conduct an annual inspection of all combined sewer overflow control facilities owned and/or operated by the permittee. Additionally, the permittee was required to submit a rainfall monitoring study and a CSO monitoring study. The permittee was not required to monitor the water quality of the receiving waterbody.

Under this proposed permit action, the permittee will be required to implement a CMP to verify: baseline and existing conditions, effectiveness of controls, compliance with the WQS and protection of designated uses. The permittee can use previously submitted studies in developing the CMP that shall detail the monitoring protocols. If using the Demonstration Approach, the monitoring must be ongoing every year, however, if using the Presumption Approach the monitoring may be reduced during implementation of the CSO controls.

3. Reporting Requirements:

All data requested to be submitted by this permit shall be reported on the Discharge Monitoring Reports (DMRs), and submitted to the Department as required by N.J.A.C. 7:14A-6.8(a).

4. General Conditions:

In accordance with N.J.A.C. 7:14A-2.3 and 6.1(b), specific rules from the New Jersey Administrative Code have been incorporated either expressly or by reference in Part I and Part II.

5. Operator Classification Number:

The specific licensed operator classification requirement for the collection system is not included in the permit, however, as part of the O&M requirements in Part IV.F., the permittee is required to have an appropriately licensed operator as per N.J.A.C. 7:10-13. To obtain or determine the appropriate licensed operator classification for the treatment works specified, the permittee shall contact the Bureau of Finance and Construction at (609) 633-1180.

6. Compliance Schedule:

This permit includes a compliance schedule for the submittal of the LTCP which is established at three (3) years from the effective date of the permit (EDP) to allow the permittee sufficient time to coordinate the development of the LTCP with all of the municipalities in the hydraulically connected sewer system. This permit also requires other submittal deadlines to document the permittee's progress toward compliance with the NMC and LTCP of the National Policy and N.J.A.C. 7:14A-11 – Appendix C, in accordance with N.J.A.C. 7:14A-6.4.

E. Description of Procedures for Reaching a Final Decision on the CSO Draft Permit Action:

Please refer to the procedures described in the public notice that is part of the draft permit. The public notice for this permit action is published in the *Star Ledger* and in the *DEP Bulletin*.

F. CSO Contact Information:

If you have any questions regarding the CSO requirements of this permit action, please contact Andy Doyle, Bureau of Surface Water Permitting at (609) 292-4860.

G. Contents of the Administrative Record:

The following items are used to establish the basis of the Draft Permit:

Rules and Regulations:

1. 33 U.S.C. 1251 *et seq.*, Federal Water Pollution Control Act. [C]
2. 40 CFR Part 131, Federal Water Quality Standards. [A] [C]
3. 40 CFR Part 122, National Pollutant Discharge Elimination System. [C]
4. National CSO Control Policy (Published April 19, 1994, at 59 Federal Register 18688)
5. N.J.S.A. 58:10A-1 *et seq.*, New Jersey Water Pollution Control Act. [A] [B]
6. N.J.A.C. 7:14A-1 *et seq.*, New Jersey Pollutant Discharge Elimination System Regulations. [A] [B]
7. N.J.A.C. 7:9B-1 *et seq.*, New Jersey Surface Water Quality Standards. [A] [B]
8. N.J.A.C. 7:15, Statewide Water Quality Management Planning Rules. [A] [B]
9. N.J.A.C. 7:14C, Sludge Quality Assurance Regulations. [B]
10. Northeast Water Quality Management Plan.
11. Interstate Environmental Commission Regulations, N.J.S.A. 32:18-1 *et seq.*
12. N.J.S.A. 58:25-23 *et/ seq.*, Sewage Infrastructure Improvement Act
13. New Jersey's 2010 Integrated Water Quality Monitoring and Assessment Report (includes 305(b) Report and 303(d) List)
14. Pretreatment Requirements (N.J.A.C. 7:14A-19)

Guidance Documents / Reports:

1. "Field Sampling Procedures Manual", published by the NJDEP. [A]
2. "NJPDES Monitoring Report Form Reference Manual", updated December 2007, and available on the web at http://www.state.nj.us/dep/dwq/pdf/MRF_Manual.pdf.

3. "EPA Technical Support Document for Water Quality-based Toxics Control", EPA/505/2-90-001, March 1991. [A]
4. Draft "Technical Manual for Reclaimed Water for Beneficial Reuse", published by NJDEP, October 2002. [A]
[B]

To help permittees and NPDES permitting and WQS authorities implement the provisions of the CSO Control Policy, EPA has developed the following guidance documents:

- Combined Sewer Overflows - Guidance for Long-Term Control Plan (EPA 832-B-95-002)
- Combined Sewer Overflows - Guidance for Nine Minimum Controls (EPA 832-B-95-003)
- Combined Sewer Overflows - Guidance for Screening and Ranking Combined Sewer System Discharges (EPA 832-B-95-004)
- Combined Sewer Overflows - Guidance for Monitoring and Modeling (EPA 832-B-95-05)
- Combined Sewer Overflows - Guidance for Financial Capability Assessment (EPA 832-B-95-006)
- Combined Sewer Overflows - Guidance for Funding Options (EPA 832-B-95-007)
- Combined Sewer Overflows - Guidance for Permit Writers (EPA 832-B-95-008)
- Combined Sewer Overflows - Questions and Answers on Water Quality Standards and the CSO Program (EPA 832-B-95-009)

Permits / Applications:

1. Existing NJPDES/DSW Permit NJ0029084, issued January 7, 2010 and effective February 1, 2010. [A]
2. Major Modification to NJPDES/DSW Permit NJ0029084, issued December 27, 2012 and effective on February 1, 2010. [A]

Correspondences / Submittals:

North Bergen MUA:

- Letter and compact disc from Raymond A. Ferrara, Ph.D., Vice President, Kleinfelder Omni, on behalf of the North Bergen MUA.
- Stay letter dated January 10, 2012.
- North Bergen MUA Public Participation Report, prepared by Hatch Mott MacDonald, dated April 2007.
- Cost & Performance Analysis Report for the North Bergen Municipal Utilities Authority, prepared by Boswell McClave Engineering in association with HydroQual Inc., dated March 2007.
- North Bergen Municipal Utilities Authority CSO Characterization Study, Final Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated March 2005.
- North Bergen Municipal Utilities Authority CSO Characterization Study, Supporting Laboratory Data, prepared by Hatch Mott MacDonald, dated March 2005.
- North Bergen Municipal Utilities Authority CSO Characterization Study Group 2 – Dry Weather Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated June 2003.
- North Bergen Municipal Utilities Authority CSO Characterization Study Group 1 – Dry Weather Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated March 2003.
- Combined Sewer Overflow Characterization Study, Quality Assurance/Work Plan, for the North Bergen Municipal Utilities Authority, prepared by Hatch Mott MacDonald, dated November 2002.
- North Bergen Township Sewer Mapping and Flow Monitoring Study, prepared by Metcalf & Eddy, December 1992.

Town of Guttenberg:

- Town of Guttenberg Public Participation Report, prepared through the NJ CSO Group by Hatch Mott MacDonald dated April 2007;
- Town of Guttenberg Cost and Performance Analysis, prepared by Schoor DePalma, Inc., in conjunction with HydroQual, Inc., dated March 30, 2007;

- CSO Discharge Characterization Study, Monitoring Program Proposal and Quality Assurance/Work Plan for the Town of Guttenberg, prepared by Killam, dated December 1996; and
- CSO Characterization Study, Interim Service Area Drainage and Land Use Report for the Town of Guttenberg, prepared by Killam, dated November 1996.

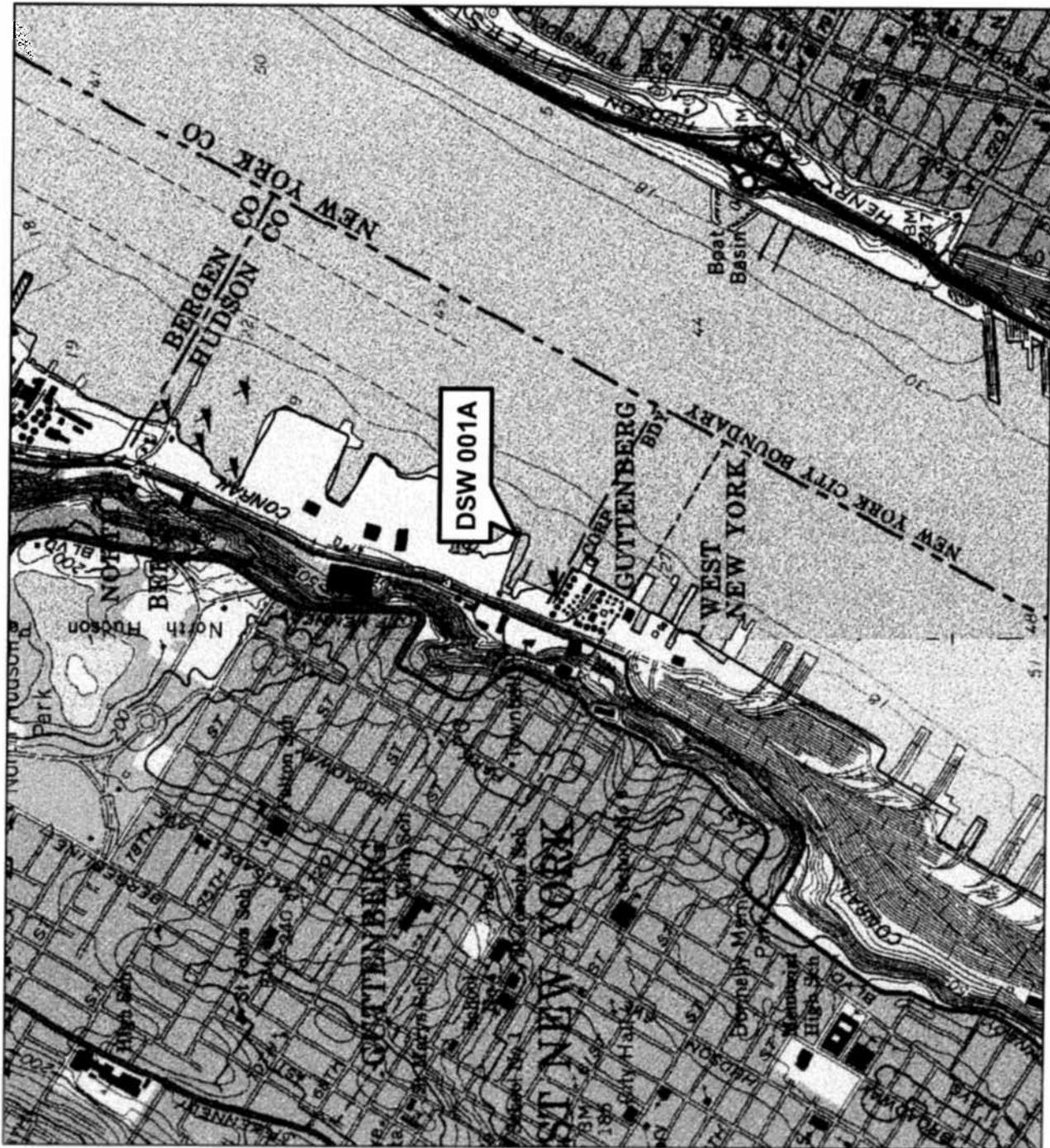
Meetings / Site Visits:

1. CSO Roll-Out Meeting at NBMUA on November 8, 2013.

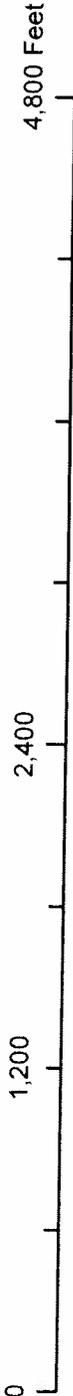
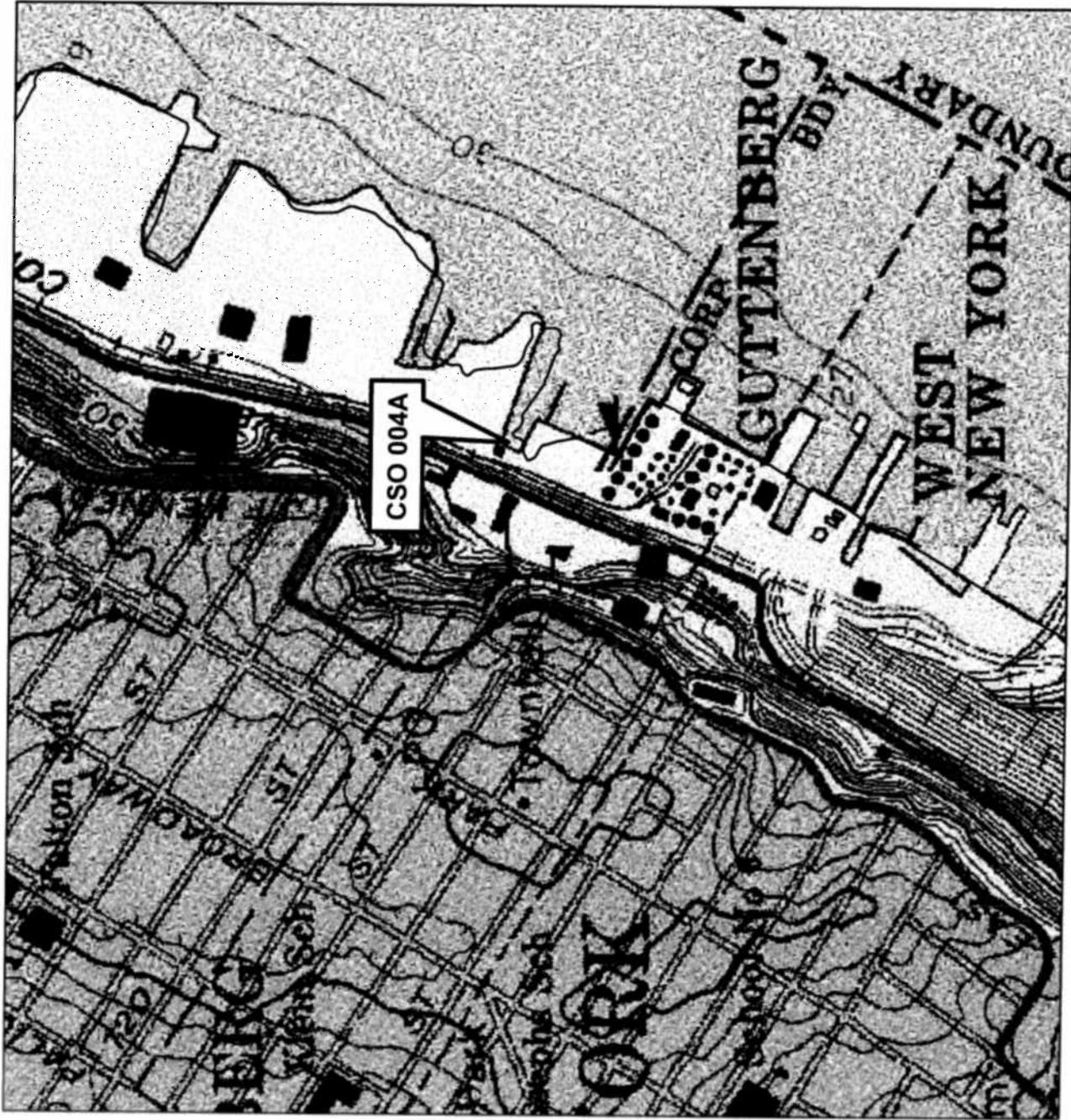
Footnotes:

- [A] Denotes items that may be found in the NJPDES/DSW Administrative Record Library located in the NJDEP Central File Room, 401 East State Street, Trenton, New Jersey.
- [B] Denotes items that may be found on the New Jersey Department of Environmental Protection (NJDEP) website located at "<http://www.state.nj.us/dep/>".
- [C] Denotes items that may be found on the United States Environmental Protection Agency (USEPA) website at "<http://www.epa.gov/>".

DSW Outfall
North Bergen MUA
USGS Topo Map



CSO of
North Bergen Woodcliff
USGS Topo Map



PART I GENERAL REQUIREMENTS: NJPDES

A. General Requirements of all NJPDES Permits

I. Requirements Incorporated by Reference

- a. The permittee shall comply with all conditions set forth in this permit and with all the applicable requirements incorporated into this permit by reference. The permittee is required to comply with the regulations, including those cited in paragraphs b. through e. following, which are in effect as of the effective date of the final permit.
- b. General Conditions
 - Penalties for Violations N.J.A.C. 7:14-8.1 et seq.
 - Incorporation by Reference N.J.A.C. 7:14A-2.3
 - Toxic Pollutants N.J.A.C. 7:14A-6.2(a)4i
 - Duty to Comply N.J.A.C. 7:14A-6.2(a)1 & 4
 - Duty to Mitigate N.J.A.C. 7:14A-6.2(a)5 & 11
 - Inspection and Entry N.J.A.C. 7:14A-2.11(e)
 - Enforcement Action N.J.A.C. 7:14A-2.9
 - Duty to Reapply N.J.A.C. 7:14A-4.2(e)3
 - Signatory Requirements for Applications and Reports N.J.A.C. 7:14A-4.9
 - Effect of Permit/Other Laws N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c)
 - Severability N.J.A.C. 7:14A-2.2
 - Administrative Continuation of Permits N.J.A.C. 7:14A-2.8
 - Permit Actions N.J.A.C. 7:14A-2.7(c)
 - Reopener Clause N.J.A.C. 7:14A-6.2(a)10
 - Permit Duration and Renewal N.J.A.C. 7:14A-2.7(a) & (b)
 - Consolidation of Permit Process N.J.A.C. 7:14A-15.5
 - Confidentiality N.J.A.C. 7:14A-18.2 & 2.11(g)
 - Fee Schedule N.J.A.C. 7:14A-3.1
 - Treatment Works Approval N.J.A.C. 7:14A-22 & 23
- c. Operation And Maintenance
 - Need to Halt or Reduce not a Defense N.J.A.C. 7:14A-2.9(b)
 - Proper Operation and Maintenance N.J.A.C. 7:14A-6.12
- d. Monitoring And Records
 - Monitoring N.J.A.C. 7:14A-6.5
 - Recordkeeping N.J.A.C. 7:14A-6.6
 - Signatory Requirements for Monitoring Reports N.J.A.C. 7:14A-6.9
- e. Reporting Requirements
 - Planned Changes N.J.A.C. 7:14A-6.7
 - Reporting of Monitoring Results N.J.A.C. 7:14A-6.8
 - Noncompliance Reporting N.J.A.C. 7:14A-6.10 & 6.8(h)
 - Hotline/Two Hour & Twenty-four Hour Reporting N.J.A.C. 7:14A-6.10(c) & (d)
 - Written Reporting N.J.A.C. 7:14A-6.10(e) & (f) & 6.8(h)
 - Duty to Provide Information N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
 - Schedules of Compliance N.J.A.C. 7:14A-6.4
 - Transfer N.J.A.C. 7:14A-6.2(a)8 & 16.2

PART II

GENERAL REQUIREMENTS: DISCHARGE CATEGORIES

A. Additional Requirements Incorporated By Reference

1. Requirements for Discharges to Surface Waters

- a. In addition to conditions in Part I of this permit, the conditions in this section are applicable to activities at the permitted location and are incorporated by reference. The permittee is required to comply with the regulations which are in effect as of the effective date of the final permit.
 - i. Surface Water Quality Standards N.J.A.C. 7:9B-1
 - ii. Water Quality Management Planning Regulations N.J.A.C. 7:15

B. General Conditions

1. Scope

- a. The issuance of this permit shall not be considered as a waiver of any applicable federal, state, and local rules, regulations and ordinances.

2. Permit Renewal Requirement

- a. Permit conditions remain in effect and enforceable until and unless the permit is modified, renewed or revoked by the Department.
- b. Submit a complete permit renewal application: 180 days before the Expiration Date.

3. Notification of Non-Compliance

- a. The permittee shall notify the Department of all non-compliance when required in accordance with N.J.A.C. 7:14A-6.10 by contacting the DEP HOTLINE at 1-877-WARNDEP (1-877-927-6337).
- b. The permittee shall submit a written report as required by N.J.A.C. 7:14A-6.10 within five days.

4. Notification of Changes

- a. The permittee shall give written notification to the Department of any planned physical or operational alterations or additions to the permitted facility when the alteration is expected to result in a significant change in the permittee's discharge and/or residuals use or disposal practices including the cessation of discharge in accordance with N.J.A.C. 7:14A-6.7.
- b. Prior to any change in ownership, the current permittee shall comply with the requirements of N.J.A.C. 7:14A-16.2, pertaining to the notification of change in ownership.

5. Access to Information

- a. The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to enter upon a person's premises, for purposes of inspection, and to access / copy any records that must be kept under the conditions of this permit.

6. Operator Certification

- a. Pursuant to N.J.A.C. 7:10A-1.1 et seq. every wastewater system not exempt pursuant to N.J.A.C. 7:10A-1.1(b) requires a licensed operator. The operator of a system shall meet the Department's requirements pursuant to N.J.A.C. 7:10A-1.1 and any amendments. The name of the proposed operator, where required shall be submitted to the Department at the address below, in order that his/her qualifications may be determined prior to initiating operation of the treatment works.
 - i. Notifications shall be submitted to:
NJDEP
Bureau of Licensing and Pesticide Operations
Mail Code 401-04E
P.O. Box 420
Trenton, New Jersey 08625-0420
(609)777-1012.
- b. The permittee shall notify the Department of any changes in licensed operator within two weeks of the change.

7. Operation Restrictions

- a. The operation of a waste treatment or disposal facility shall at no time create: (a) a discharge, except as authorized by the Department in the manner and location specified in Part III of this permit; (b) any discharge to the waters of the state or any standing or ponded condition for water or waste, except as specifically authorized by a valid NJPDES permit.

PART III LIMITS AND MONITORING REQUIREMENTS

MONITORED LOCATION: 001A Sanitary Outfall **RECEIVING STREAM:** Hudson River **STREAM CLASSIFICATION:** SE2(C2) **DISCHARGE CATEGORY(IES):** A - Sanitary Wastewater

Location Description

The influent monitoring location shall be before any treatment, other than degritting, and before the addition of any internal waste streams. The permittee shall sample the effluent after treatment and prior to discharge into the Hudson River at:
 Latitude N: 40d 48m 12.2s
 Longitude W: 73d 59m 26.1s

Contributing Waste Types
 Sanitary

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	PHASE Start Date:			PHASE End Date:			Units	Frequency	Sample Type
		Limit	REPORT Monthly Average	REPORT Daily Maximum	Limit	REPORT Monthly Average	REPORT Weekly Average			
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	***	*****	***	*****	***	*****	MGD	Continuous	Continuous
		***	*****	***	*****	***	***	MG/L	1/Week	24 Hour Composite
January thru December BOD, 5-Day (20 oC)	Raw Sew/influent	***	*****	***	*****	***	***	MG/L	1/Week	24 Hour Composite
		***	*****	***	*****	***	***	MG/L	1/Week	24 Hour Composite
January thru December BOD, 5-Day (20 oC)	Effluent Gross Value	330	*****	500	*****	30	45	MG/L	1/Week	24 Hour Composite
		Monthly Average	Weekly Average	***	***	Monthly Average	Weekly Average	***	***	***
January thru December BOD, 5-Day (20 oC)	Percent Removal	*****	*****	***	*****	85	*****	PERCENT	1/Week	Calculated
		***	*****	***	*****	Monthly Av Minimum	***	***	***	***

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	PHASE Start Date:			PHASE End Date:			Units	Limit	Frequency	Sample Type
		Limit	Limit	Limit	Units	Limit	Limit				
pH	Raw Sew/influent	*****	*****	*****	*****	REPORT Instant Minimum ***	*****	REPORT Instant Maximum ***	2/Day	Grab	
	QL	***	***	***	***	***	***	***			
pH	Effluent Gross Value	*****	*****	*****	*****	6.0 Instant Minimum ***	*****	9.0 Instant Maximum ***	2/Day	Grab	
	QL	***	***	***	***	***	***	***			
Solids, Total Suspended	Raw Sew/influent	*****	*****	*****	*****	*****	REPORT Monthly Average ***	REPORT Weekly Average ***	1/Week	24 Hour Composite	
	QL	***	***	***	***	***	***	***			
Solids, Total Suspended	Effluent Gross Value	330 Monthly Average ***	500 Weekly Average ***	KG/DAY	*****	*****	30 Monthly Average ***	45 Weekly Average ***	1/Week	24 Hour Composite	
	QL	***	***	***	***	***	***	***			
Solids, Total Suspended	Percent Removal	*****	*****	*****	*****	85 Monthly Av Minimum ***	*****	*****	1/Week	Calculated	
	QL	***	***	***	***	***	***	***			
Oil and Grease	Effluent Gross Value	*****	*****	*****	*****	*****	10 Monthly Average ***	15 Instant Maximum ***	1/Month	Grab	
	QL	***	***	***	***	***	***	***			
Nitrogen, Ammonia Total (as N)	Effluent Gross Value	REPORT Monthly Average ***	REPORT Daily Maximum ***	KG/DAY	*****	*****	REPORT Monthly Average ***	REPORT Daily Maximum ***	1/Month	24 Hour Composite	
	QL	***	***	***	***	***	***	***			
May thru October											

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	PHASE Start Date:			PHASE End Date:			Units	Limit	Frequency	Sample Type
		Limit	Limit	Limit	Units	Limit	Limit				
Nitrogen, Ammonia Total (as N)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	24 Hour Composite	
	QL	***	***		***						
Coliform, Fecal General	Effluent Gross Value	****	****	****	****	200 Monthly Geo Avg	400 Weekly Geometric	#/100ML	4/Month	Grab	
	QL	***	***		***						
January thru December	Effluent Gross Value	****	****	****	34 Report Per Minimum	50	****	%EFFL	1/Quarter	Composite	
	AL	***	***		***						
Chlorine Produced Oxidants	Effluent Gross Value	0.59 Monthly Average	1.43 Daily Maximum	KG/DAY	****	0.054 Monthly Average	0.13 Daily Maximum	MG/L	2/Day	Grab	
	MDL	1.1	1.1		***	0.1	0.1				
January thru December	Temperature, oC	Raw Sew/influent	****	****	REPORT Report Per Minimum	REPORT Report Per Minimum	REPORT Report Per Maximum	DEG.C	2/Day	Grab	
	QL	***	***		***						
January thru December	Temperature, oC	Effluent Gross Value	****	****	REPORT Report Per Minimum	REPORT Report Per Minimum	REPORT Report Per Maximum	DEG.C	2/Day	Grab	
	QL	***	***		***						
January thru December	Oxygen, Dissolved (DO)	Effluent Gross Value	****	****	****	4 Weekly Av Minimum	****	MG/L	1/Week	Grab	
	QL	***	***		***						
January thru December	QL	***	***		***						

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	PHASE Start Date:			PHASE End Date:			Units	Frequency	Sample Type
		Limit	Limit	Limit	Limit	Limit	Limit			
Mercury Total Recoverable	Effluent Gross Value	8.8 Monthly Average	***	REPORT Daily Maximum	****	GR/DAY	REPORT Monthly Average	UG/L	1/Month	24 Hour Composite
	QL	***	***	***	***		***			

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	PHASE Start Date:			PHASE End Date:			Units	Frequency	Sample Type
		Limit	Limit	Limit	Limit	Limit	Limit			
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT Monthly Average	***	REPORT Daily Maximum	****	MGD	REPORT Monthly Average	****	Continuous	Continuous
	QL	***	***	***	***		***			
January thru December BOD, 5-Day (20 oC)	Raw Sew/influent	****	****	****	****		REPORT Monthly Average	MG/L	1/Week	24 Hour Composite
	QL	***	***	***	***		***			
January thru December BOD, 5-Day (20 oC)	Effluent Gross Value	330 Monthly Average	***	500 Weekly Average	****	KG/DAY	30 Monthly Average	MG/L	1/Week	24 Hour Composite
	QL	***	***	***	***		***			
January thru December BOD, 5-Day (20 oC)	Percent Removal	****	****	****	85 Monthly Av Minimum	****	****	PERCENT	1/Week	Calculated
	QL	***	***	***	***		***			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	PHASE Start Date:			PHASE End Date:			Units	Limit	Frequency	Sample Type
		Limit	Limit	Limit	Units	Limit	Limit				
pH	Raw Sew/influent	*****	*****	*****	*****	*****	*****	REPORT Report Per Minimum ***	*****	2/Day	Grab
	QL	***	***	***	***	***	***	REPORT Report Per Maximum ***	***		
pH	Effluent Gross Value	*****	*****	*****	*****	*****	*****	6.0 Report Per Minimum ***	*****	2/Day	Grab
	QL	***	***	***	***	***	***	REPORT Report Per Maximum ***	***		
Solids, Total Suspended	Raw Sew/influent	*****	*****	*****	*****	*****	*****	*****	*****	1/Week	24 Hour Composite
	QL	***	***	***	***	***	***	REPORT Monthly Average ***	REPORT Weekly Average ***		
Solids, Total Suspended	Effluent Gross Value	330 Monthly Average ***	500 Weekly Average ***	KG/DAY	*****	*****	*****	*****	30 Monthly Average ***	45 Weekly Average ***	24 Hour Composite
	QL	***	***	***	***	***	***	*****	*****	*****	*****
Solids, Total Suspended	Percent Removal	*****	*****	*****	*****	*****	*****	85 Monthly Av Minimum ***	*****	1/Week	Calculated
	QL	***	***	***	***	***	***	*****	*****	*****	*****
Oil and Grease	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	10 Monthly Average ***	15 Instant Maximum ***	Grab
	QL	***	***	***	***	***	***	*****	*****	*****	*****
Nitrogen, Ammonia Total (as N)	Effluent Gross Value	REPORT Monthly Average ***	REPORT Daily Maximum ***	KG/DAY	*****	*****	*****	*****	REPORT Monthly Average ***	REPORT Daily Maximum ***	24 Hour Composite
	QL	***	***	***	***	***	***	*****	*****	*****	*****
May thru October											

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	PHASE Start Date:		PHASE End Date:		Units	Limit	Limit	Limit	Units	Frequency	Sample Type
		Limit	REPORT Monthly Average	Limit	REPORT Monthly Average							
Nitrogen, Ammonia Total (as N)	Effluent Gross Value	REPORT Monthly Average	***	REPORT Daily Maximum	***	KG/DAY	****	****	REPORT Monthly Average	MG/L	1/Month	24 Hour Composite
	QL	***	***	***	***				***			
Coliform, Fecal General	Effluent Gross Value	****	****	****	****	****	****	****	200 Monthly Geo Avg	#/100ML	4/Month	Grab
	QL	***	***	***	***				***			
January thru December	Effluent Gross Value	****	****	****	****	****	34 Report Per Minimum	****	****	%EFFL	1/Quarter	Composite
LC50 State 96hr Acu Mysid Bahia	AL	***	***	***	***		50	***	***			
January thru December	Effluent Gross Value	0.59 Monthly Average	1.1	1.43 Daily Maximum	1.1	KG/DAY	****	****	0.054 Monthly Average	MG/L	2/Day	Grab
Chlorine Produced Oxidants	MDL	1.1	1.1	1.1	1.1				0.1			
January thru December	Raw Sew/influent	****	****	****	****	****	REPORT Per Minimum	REPORT Per Minimum	REPORT Monthly Average	DEG.C	2/Day	Grab
Temperature, oC	QL	***	***	***	***				***			
January thru December	Effluent Gross Value	****	****	****	****	****	REPORT Per Minimum	REPORT Per Minimum	REPORT Monthly Average	DEG.C	2/Day	Grab
Temperature, oC	QL	***	***	***	***				***			
January thru December	Effluent Gross Value	****	****	****	****	****	REPORT Daily Minimum	REPORT Daily Minimum	4 Weekly Av Minimum	MG/L	1/Week	Grab
Oxygen, Dissolved (DO)	QL	****	****	****	****				****			
January thru December	QL	***	***	***	***				***			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	PHASE Start Date:			PHASE End Date:			Units	Limit	Frequency	Sample Type
		Limit	Limit	Limit	Units	Limit	Limit				
Mercury Total Recoverable	Effluent Gross Value	8.8	Monthly Average	***	GR/DAY	REPORT Daily Maximum	***	REPORT Monthly Average	***	UG/L	24 Hour Composite
	QL	***	***	***		***	***	***	***		

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: Within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP)..

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Cyanide, Total (as CN)	Effluent Gross Value	REPORT RQL = 40	UG/L	Grab	January thru December
	Effluent Gross Value	REPORT RQL = 8	UG/L	24 Hour Composite	January thru December
Arsenic, Total Recoverable (as As)	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Selenium, Total Recoverable	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: Within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:**

PHASE End Date:

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Beryllium, Total Recoverable (as Be)	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Nickel, Total Recoverable	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Silver, Total Recoverable	Effluent Gross Value	REPORT RQL = 2	UG/L	24 Hour Composite	January thru December
Cadmium, Total Recoverable	Effluent Gross Value	REPORT RQL = 4	UG/L	24 Hour Composite	January thru December
Lead, Total Recoverable	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Chromium, Total Recoverable	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Copper, Total Recoverable	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Antimony, Total Recoverable	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Mercury Total Recoverable	Effluent Gross Value	REPORT RQL = 1	UG/L	24 Hour Composite	January thru December
Acenaphthylene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Acenaphthene	Effluent Gross Value	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
Anthracene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Benzo(b)fluoranthene (3,4-benzo)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(k)fluoranthene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzo(a)pyrene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: Within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP)..

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements**PHASE: Final** **PHASE Start Date:****PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Bis(2-chloroethyl) ether	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethoxy) methane	Effluent Gross Value	REPORT RQL = 26.5	UG/L	24 Hour Composite	January thru December
Bis (2-chloroisopropyl) ether	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Butyl benzyl phthalate	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Chrysene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Diethyl phthalate	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Dimethyl phthalate	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
1,2-Diphenylhydrazine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Fluoranthene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Fluorene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Hexachlorocyclopentadiene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Hexachloroethane	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Indeno(1,2,3-cd)pyrene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Isophorone	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
N-nitrosodi-n-propylamine	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: Within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements**PHASE:** Final **PHASE Start Date:****PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
N-nitrosodiphenyl-amine	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
N-nitrosodimethyl-amine	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Nitrobenzene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Phenanthrene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Pyrene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzo(ghi)perylene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzo(a)anthracene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
1,2-Dichlorobenzene	Effluent Gross Value	REPORT RQL = 9	UG/L	24 Hour Composite	January thru December
1,2,4-Trichloro-benzene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Dibenzo(a,h)anthracene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
1,3-Dichlorobenzene	Effluent Gross Value	REPORT RQL = 9	UG/L	24 Hour Composite	January thru December
1,4-Dichlorobenzene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
2-Chloronaphthalene	Effluent Gross Value	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
Di-n-octyl Phthalate	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dinitrotoluene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: Within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements**PHASE: Final****PHASE Start Date:****PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
2,6-Dinitrotoluene	Effluent Gross Value	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
3,3'-Dichloro-benzidine	Effluent Gross Value	REPORT RQL = 60	UG/L	24 Hour Composite	January thru December
4-Bromophenyl phenyl ether	Effluent Gross Value	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
Naphthalene	Effluent Gross Value	REPORT RQL = 8	UG/L	24 Hour Composite	January thru December
Di-n-butyl phthalate	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzidine	Effluent Gross Value	REPORT RQL = 50	UG/L	24 Hour Composite	January thru December
Hexachlorobenzene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Hexachlorobutadiene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
1,3-Dichloropropene	Effluent Gross Value	REPORT RQL = 7	UG/L	Grab	January thru December
Carbon Tetrachloride	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
1,2-Dichloroethane	Effluent Gross Value	REPORT RQL = 3	UG/L	Grab	January thru December
Bromoform	Effluent Gross Value	REPORT RQL = 8	UG/L	Grab	January thru December
Chloroform	Effluent Gross Value	REPORT RQL = 5	UG/L	Grab	January thru December
Toluene	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
Benzene	Effluent Gross Value	REPORT RQL = 7	UG/L	Grab	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: Within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP)..

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements**PHASE: Final****PHASE Start Date:****PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Acrolein	Effluent Gross Value	REPORT RQL = 50	UG/L	Grab	January thru December
Acrylonitrile	Effluent Gross Value	REPORT RQL = 50	UG/L	Grab	January thru December
Chlorobenzene	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
Chlorodibromomethane	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
Ethylbenzene	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
Methyl Bromide	Effluent Gross Value	REPORT RQL = 9	UG/L	Grab	January thru December
Methyl Chloride	Effluent Gross Value	REPORT RQL = 10	UG/L	Grab	January thru December
Methylene Chloride	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
Tetrachloroethylene	Effluent Gross Value	REPORT RQL = 9	UG/L	Grab	January thru December
Trichlorofluoro- methane	Effluent Gross Value	REPORT RQL = 5	UG/L	Grab	January thru December
1,1-Dichloroethane	Effluent Gross Value	REPORT RQL = 23.5	UG/L	Grab	January thru December
1,1-Dichloroethylene	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
1,1,1-Trichloro- ethane	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
1,1,2-Trichloro- ethane	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
1,1,2,2-Tetrachloro- ethane	Effluent Gross Value	REPORT RQL = 10	UG/L	Grab	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: Within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements**PHASE: Final****PHASE Start Date:****PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
1,2-Dichloropropane	Effluent Gross Value	REPORT RQL = 5	UG/L	Grab	January thru December
1,2-trans-Dichloro-ethylene	Effluent Gross Value	REPORT RQL = 4	UG/L	Grab	January thru December
2-Chloroethyl Vinyl Ether (Mixed)	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Bromodichloromethane	Effluent Gross Value	REPORT RQL = 5	UG/L	Grab	January thru December
Vinyl Chloride	Effluent Gross Value	REPORT RQL = 10	UG/L	Grab	January thru December
Trichloroethylene	Effluent Gross Value	REPORT RQL = 5	UG/L	Grab	January thru December
Chloroethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Parachloro-m-cresol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Phenols	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Delta BHC, Total (ug/l)	Effluent Gross Value	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Endosulfan Sulfate	Effluent Gross Value	REPORT RQL = 0.08	UG/L	24 Hour Composite	January thru December
Beta Endosulfan	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Alpha Endosulfan	Effluent Gross Value	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Endrin Aldehyde	Effluent Gross Value	REPORT RQL = 0.1	UG/L	24 Hour Composite	January thru December
PCB-1016 (Arochlor 1016)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: Within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements**PHASE: Final****PHASE Start Date:****PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
2,3,7,8-Tetrachloro-dibenzo-p-dioxin	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDT(p,p'-DDT)	Effluent Gross Value	REPORT RQL = 0.06	UG/L	24 Hour Composite	January thru December
4,4'-DDD(p,p'-DDD)	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
4,4'-DDE(p,p'-DDE)	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Aldrin	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Alpha BHC	Effluent Gross Value	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Beta BHC	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Gamma BHC (lindane),	Effluent Gross Value	REPORT RQL = 0.03	UG/L	24 Hour Composite	January thru December
Chlordane	Effluent Gross Value	REPORT RQL = 0.2	UG/L	24 Hour Composite	January thru December
Dieldrin	Effluent Gross Value	REPORT RQL = 0.03	UG/L	24 Hour Composite	January thru December
Endosulfans, Total (alpha and beta)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Endrin	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Toxaphene	Effluent Gross Value	REPORT RQL = 1	UG/L	24 Hour Composite	January thru December
Heptachlor	Effluent Gross Value	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Heptachlor Epoxide	Effluent Gross Value	REPORT RQL = 0.4	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: Within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final

PHASE Start Date:

PHASE End Date:

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
4,6-Dinitro-o-cresol	Effluent Gross Value	REPORT RQL = 60	UG/L	24 Hour Composite	January thru December
Phenol Single Compound	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Pentachlorophenol	Effluent Gross Value	REPORT RQL = 30	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Semi Annual Reporting Requirements:

Submit a Semi-Annual WCR: within twenty-five days after the end of every 6 month monitoring period beginning from the effective date of the permit (EDP).

Table III - A - 4: Surface Water WCR - Semi Annual Limits and Monitoring Requirements

PHASE: Final

PHASE Start Date:

PHASE End Date:

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Manganese, Total Recoverable	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Zinc, Total Recoverable	Effluent Gross Value	REPORT RQL = 30	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: Within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements**PHASE: Final****PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
PCB-1221 (Arochlor 1221)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1232 (Arochlor 1232)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1242 (Arochlor 1242)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1248 (Arochlor 1248)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1254 (Arochlor 1254)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1260 (Arochlor 1260)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Polychlorinated Biphenyls (PCBs)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2-Chlorophenol	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
2-Nitrophenol	Effluent Gross Value	REPORT RQL = 18	UG/L	24 Hour Composite	January thru December
2,4-Dichlorophenol	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
2,4-Dimethylphenol	Effluent Gross Value	REPORT RQL = 13.5	UG/L	24 Hour Composite	January thru December
2,4-Dinitrophenol	Effluent Gross Value	REPORT RQL = 40	UG/L	24 Hour Composite	January thru December
2,4,6-Trichloro- phenol	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
4-Chlorophenyl phenyl ether	Effluent Gross Value	REPORT RQL = 21	UG/L	24 Hour Composite	January thru December
4-Nitrophenol	Effluent Gross Value	REPORT RQL = 12	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Semi Annual Reporting Requirements:

Submit a Semi-Annual WCR: within twenty-five days after the end of every 6 month monitoring period beginning from the effective date of the permit (EDP).

Table III - A - 4: Surface Water WCR - Semi Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Bis(2-ethylhexyl) phthalate	Effluent Gross Value	REPORT RQL = 30	UG/L	24 Hour Composite	January thru December

MONITORED LOCATION: 004A CSO
RECEIVING STREAM: Hudson River
STREAM CLASSIFICATION: SE2(C2)
DISCHARGE CATEGORY(IES): CSM - Combined Sewer Management

Location Description

The permittee is authorized to discharge combined sewage from Outfall 004A located approximately 200-feet to the east of the NBMUA Woodcliff STP into the Hudson River at:
 Latitude N: 40d 47m 29s
 Longitude W: 73d 59m 48s

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

The total quantity of Solids/Floatables removed from this outfall shall be reported when the solid waste is measured for disposal. Precipitation shall be reported from a rain gauge representative of the area, and Duration of Discharge shall be reported as a whole day for any day when a discharge occurs.

Table III - B - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	PHASE Start Date:			PHASE End Date:			Units	Frequency	Sample Type
		Limit	Limit	Limit	Limit	Limit	Limit			
Solids/Floatables	Effluent Gross Value	REPORT Monthly Total	*****	*****	REPORT Monthly Total	*****	*****	CU YARDS	1/Month	Measured
		QL	***	***	***	***				
Precipitation	Effluent Gross Value	*****	*****	*****	REPORT Monthly Total	*****	*****	# INCHES	1/Month	Measured
		QL	***	***	***	***				
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	REPORT Monthly Total	*****	*****	# OF DAYS	1/Month	Measured
		QL	***	***	***	***				
January thru December	QL	***	***	***	***	***	***			

PART IV

SPECIFIC REQUIREMENTS: NARRATIVE

Sanitary Wastewater

A. MONITORING REQUIREMENTS

1. Standard Monitoring Requirements

- a. Each analysis required by this permit shall be performed by a New Jersey Certified Laboratory that is certified to perform that analysis.
- b. The Permittee shall perform all water/wastewater analyses in accordance with the analytical test procedures specified in 40 CFR 136, unless other test procedures have been approved by the Department in writing or as otherwise specified in the permit.
- c. The permittee shall utilize analytical methods that will ensure compliance with the Quantification Levels (QLs) listed in PART III. QLs include, but are not limited to, Recommended Quantification Levels (RQLs) and Method Detection Levels (MDLs). If the permittee and/or contract laboratory determines that the QLs achieved for any pollutant(s) generally will not be as sensitive as the QLs specified in PART III, the permittee must submit a justification of such to the Bureau of Surface Water Permitting. For limited parameters with no QL specified, the sample analysis shall use a detection level at least as sensitive as the effluent limit.
- d. All sampling shall be conducted in accordance with the Department's Field Sampling Procedures Manual, or an alternate method approved by the Department in writing.
- e. All monitoring shall be conducted as specified in Part III.
- f. All sample frequencies expressed in Part III are minimum requirements. Any additional samples taken consistent with the monitoring and reporting requirements contained herein shall be reported on the Monitoring Report Forms.
- g. Annual and semi-annual wastewater testing shall be conducted in a different quarter of each year so that tests are conducted in each of the four permit quarters of the permit cycle. Testing may be conducted during any month of the permit quarters.
- h. Monitoring for Wastewater Characterization Report parameters shall be conducted concurrently with the Whole Effluent Toxicity (WET) monitoring, when feasible.
- i. Flow shall be measured using a flow meter.

B. RECORDKEEPING

1. Standard Recordkeeping Requirements

Sanitary Wastewater

- a. The permittee shall retain records of all monitoring information, including 1) all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation (if applicable), 2) copies of all reports required by this NJPDES permit, 3) all data used to complete the application for a NJPDES permit, and 4) monitoring information required by the permit related to the permittee's residual use and/or disposal practices, for a period of at least 5 years, or longer as required by N.J.A.C. 7:14A-20, from the date of the sample, measurement, report, application or record.
- b. Records of monitoring information shall include 1) the date, locations, and time of sampling or measurements, 2) the individual(s) who performed the sampling or measurements, 3) the date(s) the analyses were performed, 4) the individual(s) who performed the analyses, 5) the analytical techniques or methods used, and 6) the results of such analyses.

C. REPORTING

1. Standard Reporting Requirements

- a. The permittee shall submit all required monitoring results to the Department on the forms provided to them. The Monitoring Report Forms (MRFs) may be provided to the permittee in either a paper format or in an electronic file format. Unless otherwise noted, all requirements below pertain to both paper and electronic formats.
- b. Any MRFs in paper format shall be submitted to the following addresses:
 - i. NJDEP
Division of Water Quality
Bureau of Permit Management
P.O. Box 420, Mail Code 02B
Trenton, New Jersey 08625-0029.
 - ii. (if requested by the Water Compliance and Enforcement Bureau)
NJDEP: Northern Bureau of Water Compliance and Enforcement
7 Ridgedale Avenue
Cedar Knolls, New Jersey 07927-1112
- c. Any electronic data submission shall be in accordance with the guidelines and provisions outlined in the Department's Electronic Data Interchange (EDI) agreement with the permittee. Paper copies must be available for on-site inspection by DEP personnel or provided to the DEP upon written request.
- d. All monitoring report forms shall be certified by the highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility.
- e. The highest ranking official may delegate responsibility to certify the monitoring report forms in his or her absence. Authorizations for other individuals to sign shall be made in accordance with N.J.A.C. 7:14A-4.9(b).
- f. Monitoring results shall be submitted in accordance with the current Discharge Monitoring Report Manual and any updates thereof.
- g. If monitoring for a parameter is not required in a monitoring period, the permittee must report "CODE=N" for that parameter.

- h. If there are no discharge events during an entire monitoring period, the permittee must notify the Department when submitting the monitoring results. This is accomplished by placing a check mark in the "No Discharge this monitoring period" box on the paper or electronic version of the monitoring report submittal form.

D. SUBMITTALS

1. Standard Submittal Requirements

- a. The permittee shall prepare/update the Operation and Maintenance (O&M) Manual including an emergency plan in accordance with requirements of N.J.A.C. 7:14A-6.12(c).
- b. Submit a certification that an Operations and Maintenance (O&M) Manual has been prepared: within 90 days from the effective date of the permit (EDP). (Effective: 2/1/2010)
- c. The permittee shall amend the Operation & Maintenance Manual whenever there is a change in the treatment works design, construction, operations or maintenance which substantially changes the treatment works operations and maintenance procedures.

2. Polychlorinated Biphenyls (PCB) Monitoring

- a. The permittee shall perform sampling for the 209 PCB congeners.
 - i. The permittee shall perform three dry weather and three wet weather samples on the facility's main outfall.
 - ii. Dry weather sampling shall be conducted when less than 0.1 inches of rainfall has occurred within the previous 72 hours.
 - iii. Wet weather sampling shall be performed within 72 hours after the onset of a precipitation event in which at least 0.1 inches of rainfall has occurred. Wet weather conditions are defined as following the onset of precipitation event of 0.1 inches or greater and an increase in wastewater flow, provided that no rainfall (defined as less than 0.1 inches) has occurred within the previous 72 hours. Sampling should start no sooner than two hours prior to the start of the rising hydrograph or no later than 30 minutes after the start of the rising hydrograph for the discharge.
 - iv. All samples shall be collected at least 30 days after the previous sampling event and each sample shall be performed in a different quarter of the year.
 - v. All samples shall be performed during periods which are representative of normal facility operations.
 - vi. All sampling shall be performed using the most recent version of USEPA Method 1668, Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by HRGC/HRMS, as found at EPA 40 CFR Part 136.
 - vii. Dry weather samples shall be 24-hour time-weighted composite samples at a frequency of not greater than one aliquot every hour for a nominal sample volume of 2 liters for both the sample and the field replicate.
 - viii. Wet weather samples shall consist of a two liter grab sample collected into a laboratory supplied bottle within 30 minutes of the start of the discharge, sealed and stored at between 0-4 degrees C for shipment. A replicate sample will be collected and treated in the same manner as the sample.

- ix. Submit the Final PCB Sampling Report: 8/1/2014. The Final Report shall include all data, including precipitation data.
 - x. The Final Report shall be submitted in PDF format on a compact disc in EXCEL format.
 - xi. Final Reports shall be submitted to:
Attn: Melisse Carasia Auriti
New Jersey Department of Environmental Protection
Mail Code 401-02B
Bureau of Surface Water Permitting
401 East State Street
PO Box 420
Trenton, NJ 08625-0420.
- b. Frequency Reduction, Suspension, Elimination of Monitoring
 - i. If sampling demonstrates non-detectable levels in the effluent, the permittee may request a frequency reduction of the monitoring.
 - ii. If the Department determines that a PMP will be necessary for this facility, the permittee may contact the Department about the possibility of eliminating the sampling described above.
 - c. Pollutant Minimization Plan (PMP) Requirement
 - i. If, based on the review of the Final Report, the Department determines that a PMP is required, the permittee shall prepare and submit a PMP to the Department by the date specified in the Department's determination letter.
 - ii. The permittee shall implement the PMP within 30 days after written notification by the Department that the PMP is complete.
 - iii. The PMP shall be developed to achieve maximum practical reduction in accordance with the PMP Technical Manual.
 - d. PCB PMP Annual Report Requirement
 - i. The permittee shall submit an annual report in accordance with the Annual Report Guidance Document every 12 months from the implementation of the PMP.
 - ii. Any revisions to the PMP as a result of the ongoing work shall be reported in the annual report.
 - iii. The annual report shall contain, at a minimum, a detailed discussion of the specific progress and actions taken by the permittee during the previous twelve month period that addresses PCB loadings and implementation of the PMP.

E. FACILITY MANAGEMENT

1. Discharge Requirements

- a. The permittee shall discharge at the location(s) specified in PART III of this permit.
- b. The permittee's discharge shall not produce objectionable color or odor in the receiving stream.
- c. The discharge shall not exhibit a visible sheen.

- d. When quantification levels (QL) and effluent limits are both specified for a given parameter in Part III, and the QL is less stringent than the effluent limit, effluent compliance will be determined by comparing the reported value against the QL.
- e. When an average of three (3) consecutive rolling monthly average values of the committed flow (actual flow and approved allocated flow) reaches or exceeds 80% of 2.91 MGD (the permitted capacity of the facility), the permittee shall:
 - i. Develop a Capacity Assurance Program (CAP) in accordance with N.J.A.C. 7:14A-22.16.
 - ii. For more information concerning the CAP, please contact the Bureau of Engineering and Construction Permitting North at (609) 292-6894.
 - iii. Contact the Division of Watershed Management to discuss whether an amendment to the Water Quality Management Plan (WQMP) or Wastewater Management Plan (WMP) will be necessary.

2. Interstate Environmental Commission

- a. The permittee shall comply with the Interstate Environmental Commission's (IEC) "Water Quality Regulations." Although no monitoring requirements specific to the IEC are included in this permit, compliance may be determined by the IEC based on its own sampling events. IEC effluent requirements shall not be considered effluent limitations for the purpose of mandatory penalties under N.J.S.A. 58:10A-10.1.

3. Applicability of Discharge Limitations and Effective Dates

- a. Surface Water Discharge Monitoring Report (DMR) Form Requirements
 - i. Final limitation and monitoring conditions become effective on the Effective Date of Permit.
- b. Wastewater Characterization Report (WCR) Form Requirements
 - i. The final effluent monitoring conditions contained in PART III for DSN001A apply for the full term of this permit action.

4. Operation, Maintenance and Emergency conditions

- a. The permittee shall operate and maintain treatment works and facilities which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit as specified in the Operation & Maintenance Manual.
- b. The permittee shall develop emergency procedures to ensure effective operation of the treatment works under emergency conditions in accordance with N.J.A.C. 7:14A-6.12(d).

5. Introduction to RWBR Requirements

- a. The following RWBR sections contain the conditions for the permittee to beneficially reuse treated effluent or Reclaimed Water for Beneficial Reuse (RWBR), provided the effluent is in compliance with the criteria specified for the particular use specified below.
- b. There are two levels of RWBR uses. Public Access and Restricted Access.

6. Inactive RWBR Requirements

- a. The following RWBR sections are included in this permit for various reuse applications. These sections are inactive and not effective unless the status column in Appendix A states the reuse activity is approved. Any specific RWBR type not approved in the Appendix, may be approved at a later date by a minor modification permit action once the appropriate submittal requirements have been received and approved by the Department.

7. RWBR Requirements for Public Access

- a. The Public Access reuse types authorized by this permit are those approved in Appendix A. Other Public Access reuse types may be added by minor modification of this permit.
- b. The hydraulic loading rate for land application of RWBR shall not exceed 2 inches per week.
- c. Any water diverted for RWBR shall be monitored and comply with the high level treatment requirements listed below and the operational requirements in the approved Operations Protocol. If any of these requirements are not achieved, the effluent shall not be diverted for RWBR.
 - i. Total Suspended Solids (TSS): Instantaneous maximum of 5.0 mg/L prior to disinfection.
 - ii. Nitrogen, Total (NO₃ + NH₃): Daily maximum of 10.0 mg/L. This requirement only applies when RWBR is land applied.
 - iii. Fecal Coliform: 7-day median maximum of 2.2 colonies per 100 mL and an instantaneous maximum of 14 colonies per 100 mL.
 - iv. Chlorine Produced Oxidants (CPO): If the permittee disinfects utilizing chlorine, an instantaneous minimum of 1.0 mg/L after fifteen minutes contact time at peak hourly flow must be met.
 - v. Ultraviolet Disinfection: If the permittee disinfects utilizing UV disinfection, a minimum design UV dose of 100 mJ/cm² under maximum daily flow must be used. All aspects of the UV system must meet the requirements of the May 2003 (or most recent) National Water Research Institute's Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse, second edition.
 - vi. Turbidity for UV systems: Instantaneous maximum of 2.0 NTU.
- d. Monitoring of the diverted public access RWBR shall be conducted in the following manner:
 - i. Sampling for TSS shall be immediately prior to disinfection. Monitoring for TSS shall be a grab sample once per week.
 - ii. Sampling for Turbidity in systems shall be sampled immediately prior to disinfection. The permittee shall establish a correlation between Turbidity and TSS in their effluent as detailed in the Reuse Technical Manual. A statistically significant correlation between Turbidity and TSS shall be established prior to commencement of the RWBR program and shall be incorporated into the Operations Protocol and updated annually. The initial correlation should be done as part of a daily monitoring program for at least 30 days. To ensure continuous compliance with the 5.0 mg/L TSS level, Turbidity must be monitored continuously and achieve the level established in the Operations Protocol.
 - iii. For chlorine disinfection, monitoring for CPO shall be continuous and shall be monitored after the appropriate contact time is achieved.
 - iv. For UV systems, UV lamp intensity, UV transmittance and UV flow rate shall be monitored continuously after full disinfection treatment.

- v. Monitoring for Fecal Coliform shall be a grab sample, taken in accordance with Part III, at least a minimum of once per week taken immediately after disinfection. Fecal coliform shall be monitored immediately after disinfection.
- vi. Monitoring for Total Nitrogen ($\text{NO}_3 + \text{NH}_3$) shall be a composite sample, taken in accordance with Part III, at least once per week taken prior to RWBR diversion. Total Nitrogen ($\text{NO}_3 + \text{NH}_3$) shall be monitored after the appropriate disinfection treatment is achieved.
- e. All monitoring results of the RWBR shall be reported each month on Wastewater Characterization Reports (WCR). Unless noted otherwise, the highest of all measured values for diverted RWBR shall be reported.
 - i. If chlorine is used for disinfection, the lowest sampling result obtained during the reporting month shall be reported for CPO.
 - ii. If ultraviolet disinfection is used, the lowest sampling results obtained during the reporting month shall be reported for lamp intensity and UV transmittance.

8. RWBR Requirements for Restricted Access--Land Application and Non Edible Crops

- a. The Restricted Access--Land Application and Non Edible Crops reuse types authorized by this permit are those approved in Appendix A. Other Restricted Access--Land Application and Non Edible Crops reuse types may be added by minor modification of this permit.
- b. The hydraulic loading rate for land application of RWBR shall not exceed 2 inches per week.
- c. Any water diverted for RWBR shall be monitored and comply with the high level treatment requirements listed below and the operational requirements in the approved Operations Protocol. If any of these requirements are not achieved, the effluent shall not be diverted for RWBR.
- d. Nitrogen, Total ($\text{NO}_3 + \text{NH}_3$): Daily maximum of 10 mg/L. Frequency of sampling for Total Nitrogen shall be in accordance with Part III of this permit. The sample shall be collected as a composite sample taken prior to diversion for RWBR. Nitrogen, Total ($\text{NO}_3 + \text{NH}_3$) shall be monitored after the appropriate disinfection treatment time is achieved. This requirement only applies when RWBR is land applied, however, this requirement does not apply to spray irrigation within a fenced perimeter or otherwise restricted area.
- e. Fecal Coliform: 200 colonies per 100 ml monthly average Geometric Mean, 400 colonies per 100 ml maximum in any one sample. Frequency of sampling for Fecal Coliform shall be in accordance with Part III of this permit. The sample shall be collected as a grab sample taken immediately after disinfection.
- f. Chlorine Produced Oxidants (CPO): For chlorine disinfection, instantaneous minimum of 1.0 mg/L after fifteen minutes contact time at peak hourly flow. Frequency of sampling for CPO shall be in accordance with Part III of this permit. The sample shall be collected as a grab sample taken immediately after disinfection. The value reported for CPO shall be the minimum sampling result obtained during the reporting month for diverted RWBR. Chlorine Produced Oxidants (CPO) shall be monitored after the appropriate contact time is achieved.

- g. Ultraviolet Disinfection: For UV disinfection, a minimum design UV dose of 75 mJ/cm² under maximum daily flow must be used. This dose must also be based on continuous monitoring of UV lamp intensity, UV transmittance and UV flow rate. All aspects of the UV system must meet the requirements of the May 2003 (or most recent) National Water Research Institute's Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse, second edition. UV lamp intensity, UV transmittance and UV flow rate shall be monitored continuously after full disinfection treatment.
- h. All monitoring results of the RWBR shall be reported each month on Wastewater Characterization Reports (WCR). Unless noted otherwise, the highest of all measured values for diverted RWBR shall be reported.

9. RWBR Requirements for Restricted Access--Construction and Maintenance Operations

- a. The Restricted Access--Construction and Maintenance Operations reuse types authorized by this permit are those approved in Appendix A. Other Restricted Access--Construction and Maintenance Operations reuse types may be added by minor modification of this permit.
- b. Fecal Coliform: 200 colonies per 100 ml monthly average Geometric Mean, 400 colonies per 100 ml maximum in any one sample. Frequency of sampling for Fecal Coliform shall be in accordance with Part III of this permit. Fecal coliform shall be monitored immediately after disinfection. This requirement does not apply to sanitary sewer jetting.

10. RWBR Requirements for Restricted Access--Industrial Systems

- a. The Restricted Access--Industrial Systems reuse types authorized by this permit are those approved in Appendix A. Other Restricted Access--Industrial Systems reuse types may be added by minor modification of this permit.

11. RWBR Submittal Requirements

- a. For Public Access RWBR, the permittee shall submit and receive approval of an Operations Protocol or modify the existing Operations Protocol as detailed in the most recent version of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" (Reuse Technical Manual) prior to the commencement of this/these type/s of RWBR activity. A copy of the approved Operations Protocol shall be maintained onsite. Specific requirements for the Operations Protocol are identified in the Reuse Technical Manual.
- b. For all types of Restricted Access RWBR, the permittee shall submit and receive approval of a Standard Operations Procedure or modify an existing Standard Operations Procedure as detailed in the most recent version of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" (Reuse Technical Manual) prior to the commencement of this/these type/s of RWBR activity. A copy of the approved Standard Operations Procedure shall be maintained onsite. Specific requirements for the Standard Operations Procedure are identified in the Reuse Technical Manual. This requirement does not apply to sanitary sewer jetting and STP washdown water.
- c. The permittee shall submit a copy of the Reuse Supplier and User Agreement with each request for authorization to distribute RWBR in which the user is a different entity than the supplier. Specific requirements for the Reuse Supplier and User Agreement are identified in the Reuse Technical Manual.

- d. For Public Access RWBR on Edible Crops, the permittee shall submit an annual inventory of edible crop irrigation with the Beneficial Reuse Annual Report. Specific requirements for the annual inventory are identified in the Reuse Technical Manual.
- e. Submit a Beneficial Reuse Annual Report: by February 1 of each year beginning from the effective date of the permit (EDP). The permittee shall compile the total volume of RWBR distributed to each type of authorized RWBR activity for the previous calendar year. Specific requirements for the Annual Reuse Report are identified in the Reuse Technical Manual. (Effective: 2/1/2010)
- f. The permittee shall submit and receive approval of an Engineering Report in support of RWBR authorization requests for new or expanded RWBR projects as detailed in the most recent version of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" (Reuse Technical Manual) prior to the commencement of this/these type/s of RWBR activity. A copy of the approved Engineering Report shall be maintained onsite. Specific requirements for the Engineering Report are identified in the Reuse Technical Manual.
- g. All submittals shall be mailed or delivered to: New Jersey Department of Environmental Protection, Division of Water Quality, Bureau of Surface Water Permitting, P.O. Box 420, Mail Code 02B, Trenton, New Jersey 08625-0420.

12. RWBR Operational Requirements

- a. Effluent that does not meet the requirements for RWBR established in Part III, Part IV and the operational requirements specified in the facility's approved Operations Protocol and Standard Operations Procedure, shall not be diverted for RWBR.
- b. The land application of RWBR shall not produce surface runoff or ponding.
- c. All setback distances shall be consistent with the distances outlined in the Reuse Technical Manual.
- d. Land application sites shall not be frozen or saturated when applying RWBR.
- e. A daily log noting the volume of RWBR distributed to each approved application site shall be maintained on-site by the permittee and made available to the Department upon request. The volume of RWBR to be distributed shall be determined through the use of a totalizing flow meter, or other means of accurate flow measurement.
- f. Any vehicle used to transport and/or distribute RWBR shall be appropriately marked. The vehicle shall not be used to transport water or other fluid that does not meet all limitations and requirements as specified in this permit for water diverted for RWBR, unless the tank has been emptied and adequately cleaned prior to the addition of the RWBR.
- g. The permittee shall post Access Control and Advisory Signs in accordance with the requirements of the Reuse Technical Manual.
- h. There shall be no cross-connections to potable water systems.
- i. All RWBR piping, pipelines, valves, and outlets shall be appropriately color coded, tagged or labeled to warn the public and employees that the water is not intended for drinking. Worker contact with RWBR shall be minimized.
- j. The issuance of this permit for the use of RWBR shall not be considered as a waiver of any applicable federal, state or local rule, regulation or ordinance.

13. Toxicity Testing Requirements - Acute Whole Effluent Toxicity

- a. Part III of this permit contains an Action Level (AL) for acute Whole Effluent Toxicity. Toxicity Reduction and Implementation Requirements may be triggered based on exceedances of this Action Level. See Toxicity Reduction and Implementation Requirements below for more details.
- b. The permittee shall conduct toxicity tests on its wastewater discharge in accordance with the provisions in this section. Such testing will determine if appropriately selected effluent concentrations adversely affect the test species.
- c. Acute toxicity tests shall be conducted using the test species and method identified in Part III of this permit.
- d. Any test that does not meet the specifications of N.J.A.C. 7:18, laboratory certification regulations, must be repeated within 30 days of the completion of the initial test. The repeat test shall not replace subsequent testing required in Part III.
- e. The permittee shall collect and analyze the concentration of ammonia-N in the effluent on the day a sample is collected for WET testing. This result is to be reported on the Biomonitoring Report Form.
- f. The permittee shall resubmit an Acute Methodology Questionnaire within 60 days of any change in laboratory.
- g. Submit an acute whole effluent toxicity test report: within twenty-five days after the end of every quarterly monitoring period beginning from the effective date of the permit (EDP). The permittee shall submit toxicity test results on appropriate forms. (Effective: 2/1/2010)
- h. Test reports shall be submitted to:
 - i. New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Surface Water Permitting
P.O. Box 420, Mail Code 02B
Trenton, New Jersey 08625.

14. Toxicity Reduction Implementation Requirements (TRIR)

- a. The permittee shall initiate a tiered toxicity investigation if two out of six consecutive WET tests demonstrate that the effluent does not comply or will not comply with the toxicity limit or action level specified in Part III of this permit.
 - i. If the exceedance of the toxicity limit or action level is directly caused by a documented facility upset, or other unusual event which has been identified and appropriately remedied by the permittee, the toxicity test data collected during the event may be eliminated when determining the need for initiating a TRIR upon written Department approval.
- b. The permittee shall begin toxicity characterization within 30 days of the end of the monitoring period when the second toxicity test exceeds the toxicity limits or action levels in Part III. The monitoring frequency for toxicity testing shall be increased to monthly. Up to 12 additional tests may be required.
 - i. The permittee may return to the toxicity testing frequency specified in Part III if four consecutive toxicity tests conducted during the Toxicity Characterization do not exceed the toxicity limit or action level.

- ii. If two out of any six consecutive, acceptable tests again exceed the toxicity limit or action level in Part III, the permittee shall repeat the Toxicity Reduction Implementation Requirements.
- c. The permittee shall initiate a preliminary toxicity identification (PTI) upon the third exceedence of the toxicity limit or action level specified in Part III during toxicity characterization.
 - i. The permittee may return to the monitoring frequency specified in PART III while conducting the PTI. If more frequent WET testing is performed during the PTI, the permittee shall submit all biomonitoring reports to the DEP and report the results for the most sensitive species on the DMR.
 - ii. As appropriate, the PTI shall include:
 - (1) treatment plant performance evaluation,
 - (2) pretreatment program information,
 - (3) evaluation of ammonia and chlorine produced oxidants levels and their effect on the toxicity of the discharge,
 - (4) evaluation of chemical use and processes at the facility, and
 - (5) an evaluation of incidental facility procedures such as floor washing, and chemical spill disposal which may contribute to effluent toxicity.
 - iii. If the permittee demonstrates that the cause of toxicity is the chlorine added for disinfection or the ammonia concentration in the effluent and the chlorine and/or ammonia concentrations are below the established water quality based effluent limitation for chlorine and/or ammonia, the permittee shall identify the procedures to be used in future toxicity tests to account for chlorine and/or ammonia toxicity in their preliminary toxicity identification report.
 - iv. The permittee shall submit a Preliminary Toxicity Identification Notification within 15 months of triggering TRIR. This notification shall include a determination that the permittee intends to demonstrate compliance OR plans to initiate a CTI.
- d. The permittee must demonstrate compliance with the WET limitation or action level in four consecutive WET tests to satisfy the requirements of the Toxicity Reduction Investigation Requirements. After successful completion, the permittee may return to the WET monitoring frequency specified in PART III.
- e. The permittee shall initiate a Comprehensive Toxicity Investigation (CTI) if the PTI does not identify the cause of toxicity and a demonstration of consistent compliance with the toxicity limit or action level in Part III can not be made.
 - i. The permittee shall develop a project study plan identifying the party or parties responsible for conducting the comprehensive evaluation, establish a schedule for completing the study, and a description of the technical approach to be utilized.
 - ii. If the permittee determines that the PTI has failed to demonstrate consistent compliance with the toxicity limit or action level in Part III, a Comprehensive Toxicity Investigation Workplan must be prepared and submitted within 90 days.
 - iii. The permittee shall summarize the data collected and the actions taken in CTI Quarterly Reports. The reports shall be submitted within 30 calendar days after the end of each quarter.
 - iv. The permittee shall submit a Final CTI Report 90 calendar days after the last quarterly report. The final CTI report shall include the corrective actions identified to reduce toxicity and a schedule for implementing these corrective actions.

- f. Upon receipt of written approval from the Department of the corrective action schedule, the permittee shall implement those corrective actions consistent with that schedule.
 - i. The permittee shall satisfy the requirements of the Toxicity Reduction Implementation Requirements and return to the original toxicity monitoring frequency after corrective actions are implemented and the permittee demonstrates consistent compliance with the toxicity limit or action level in Part III in four consecutive toxicity tests.
 - ii. If the implemented corrective measures do not result in consistent compliance with the toxicity limit or action level in Part III, the permittee shall submit a plan for resuming the CTI.

F. INDUSTRIAL PRETREATMENT PROGRAM REQUIREMENTS

1. Requirements to Identify and Locate Industrial Users

- a. The Permittee shall identify all indirect users which meet the significant indirect user (SIU) definition in N.J.A.C. 7:14A-1.2 or have reasonable potential to:
 - i. interfere with attainment of the effluent limitations contained in the permittee's NJPDES permit;
 - ii. pass through the treatment works and impair the water quality of the receiving stream; or
 - iii. affect sludge quality so as to interfere with the use or management of the municipal sludge.

2. Notification Requirements

- a. The Permittee shall provide adequate notice to the NJDEP, Division of Water Quality, Bureau of Pretreatment and Residuals, of the name, address, telephone number and facility contact of:
 - i. all new SIUs at the time the proposed user applies to the permittee for connection to the permittee's system,
 - ii. any substantial change or proposed change in the volume or character of pollutants being introduced into the POTW by existing SIUs, or
 - iii. any substantial change or proposed change in the volume or character of pollutants being introduced into the POTW by a user that causes the user to become an SIU.

3. Requirement to Develop Local Limits

- a. The Permittee has developed local limits as required by N.J.A.C. 7:14A-19.7.
- b. The Permittee shall reevaluate local limits when necessary to ensure compliance with the following minimum environmental protection criteria: the numerical effluent limitations in the Part III; the local agency's process inhibition and upset criteria; the local agency's worker health and safety protection criteria; the sludge quality criteria for a chosen method(s) of sludge management; and the limitations in the local agency's Air Pollution Control permit, where applicable.

4. Submittal Requirements

- a. The Permittee shall submit updates to its Local Sewer Use Regulations within 30 days of modification.
- b. The permittee shall prepare a Pretreatment Program Annual Report which consists of a listing of all indirect users which meet the significant indirect user definition in N.J.A.C. 7:14A-1.2. The report shall include the name, address, and type of business for each facility.

- c. Submit the Annual Pretreatment Program Report: by October 1 of each year beginning from the effective date of the permit (EDP).
- d. The report shall be submitted to: NJDEP, Bureau of Pretreatment and Residuals, 401 East State Street, P.O. Box 420, Mail Code 401-02B, Trenton, N.J. 08625-0420.

G. CONDITIONS FOR MODIFICATION

1. Notification requirements

- a. The permittee may request a minor modification for a reduction in monitoring frequency for a non-limited parameter when four consecutive test results of "not detected" have occurred using the specified QL.

2. Causes for modification

- a. The Department may modify or revoke and reissue any permit to incorporate 1) any applicable effluent standard or any effluent limitation, including any effluent standards or effluent limitations to control the discharge of toxic pollutants or pollutant parameters such as acute or chronic whole effluent toxicity and chemical specific toxic parameters, 2) toxicity reduction requirements, or 3) the implementation of a TMDL or watershed management plan adopted in accordance with N.J.A.C. 7:15-7.
- b. The permittee may request a minor modification to eliminate the monitoring requirements associated with a discharge authorized by this permit when the discharge ceases due to changes at the facility.

NOTES AND DEFINITIONS

Combined Sewer Management

A. NOTES

1. These notes are specific to this permit.

- a. The permit conditions in the CSO section apply only to the combined sewer system and related discharges.

2. CSO related resources are listed below with a link to the current webpage.

- a. NJDEP's CSO main website and related links can be found at <http://www.nj.gov/dep/dwq/cso.htm>.
- b. EPA's Combined Sewer Overflows Principal Guidance Documents can be found at <http://cfpub.epa.gov/npdes/cso/guidedocs.cfm>.
- c. The Nine Minimum Control requirements from the National CSO Policy along with EPA's guidance document can be found at N.J.A.C. 7:14A-11.12-Appendix C and http://cfpub.epa.gov/npdes/cso/ninecontrols.cfm?program_id=5.
- d. The Nine elements of a Long Term Control Plan from the National CSO Policy along with EPA's guidance document can be found at N.J.A.C. 7:14A-11.12-Appendix C and <http://cfpub.epa.gov/npdes/cso/ltplan.cfm>.
- e. EPA's Post Construction Compliance Monitoring Guidance document can be found at http://www.epa.gov/npdes/pubs/final_cso_pccm_guidance.pdf.
- f. EPA's Guidance: Coordinating Combined Sewer Overflow (CSO) Long-Term Planning with Water Quality Standards Reviews (PDF). http://www.epa.gov/npdes/pubs/cmom_5.pdf.
- g. EPA's Capacity, management, operation and maintenance (CMOM) guidance document can be found at http://www.epa.gov/npdes/pubs/cmom_5.pdf.
- h. Dry-Weather Deposition and Flushing for Combined Sewer Overflow Pollution Control: <http://nepis.epa.gov/EPA/html/DLwait.htm?url=/Exe/ZyPDF.cgi?Dockey=30000821.PDF>.
- i. Combined sewer overflow control (manual): <http://nepis.epa.gov/EPA/html/DLwait.htm?url=/Exe/ZyPDF.cgi?Dockey=30004MAO.PDF>.
- j. EPA's Storm Water and Combined Sewer Overflows Publications can be found at <http://water.epa.gov/polwaste/wastewater/StormwaterPubs.cfm>.

B. DEFINITIONS

1. These definitions are specific only to this permit.

- a. "Dry weather overflow (DWO)" means a combined sewer overflow that cannot be attributed to a precipitation event, including snow melt, within the hydraulically connected system. DWOs can include flows from one or more of the following: domestic sewage, ground water infiltration, commercial and industrial wastewaters, and any other non-precipitation event related flows (e.g., discharge of tidal infiltration and/or any connections downstream of the regulator to the outfall pipe).

- b. “Green Infrastructure” means methods of stormwater management that reduce wet weather/stormwater volume, flow, or changes the characteristics of the flow into combined or separate sanitary or storm sewers, or surface waters, by allowing the stormwater to infiltrate, to be treated by vegetation or by soils; or to be stored for reuse. Green infrastructure includes, but is not limited to, pervious paving, bioretention basins, vegetated swales, and cisterns.
- c. “Hydraulically connected system” means the entire collection system that conveys flows to one Sewage Treatment Plant (STP). On a case-by-case basis, the permittee, in consultation with the Department, may segment a larger hydraulically connected system into a series of smaller inter-connected systems, based upon the specific nature of the sewer system layout, pump stations, gradients, locations of CSOs and other physical features which support such a sub area. A hydraulically connected system could include multiple municipalities, comprised of both combined and separate sewers.

C. NINE MINIMUM CONTROL REQUIREMENTS

- 1. Proper operation and regular maintenance programs for the sewer system and the CSOs.**
- 2. Maximum use of the collection system for storage.**
- 3. Review and modification of pretreatment requirements to assure CSO impacts are minimized.**
- 4. Maximization of flow to the POTW for treatment.**
- 5. Prohibition of CSOs during dry weather.**
- 6. Control of solid and floatable materials in CSOs.**
- 7. Pollution prevention.**
- 8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts.**
- 9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.**

D. NINE ELEMENTS OF THE LONG TERM CONTROL PLAN

- 1. Characterization, Monitoring, and Modeling of the Combined Sewer Systems.**
- 2. Public Participation.**
- 3. Consideration of Sensitive Areas.**
- 4. Evaluation of Alternatives.**
- 5. Cost/Performance Considerations.**
- 6. Operational Plan.**
- 7. Maximizing Treatment at the Existing POTW Treatment Plant.**

8. Implementation Schedule.

9. Post-Construction Compliance Monitoring Program.

SPECIFIC REQUIREMENTS: NARRATIVE

Combined Sewer Management

A. MONITORING REQUIREMENTS

1. CSO Monitoring Requirements

- a. All monitoring shall be conducted as specified in Part III.
- b. All monitoring frequencies expressed in Part III are minimum requirements. Any additional samples taken consistent with the monitoring and reporting requirements contained herein shall be reported on the Monitoring Report Forms.
- c. Discharges shall be directly monitored or predicted using a DEP approved up-to-date model.

B. RECORDKEEPING

1. CSO Recordkeeping Requirements

- a. The permittee shall identify the Combined Sewer System (CSS) complaint, maintenance, inspection, and repair documentation forms and related tracking forms and/or systems and specify how, where and when this documentation will be maintained.
- b. The permittee shall retain records of all monitoring information, including 1) all calibration and any other methods of monitoring which may be employed, maintenance records and all original strip chart recordings for continuous monitoring instrumentation (if applicable), 2) copies of all reports required by this NJPDES permit, 3) all data used to complete the application for a NJPDES permit, and 4) monitoring information required by the permit related to the permittee's residual use and/or disposal practices, for a period of at least 5 years, or longer as required by N.J.A.C. 7:14A-20, from the date of the sample, measurement, report, application or record.
- c. Records of monitoring information shall include 1) the date, locations, and time of sampling or measurements, 2) the individual(s) who performed the sampling or measurements, 3) the date(s) the analyses were performed, 4) the individual(s) who performed the analyses, 5) the analytical techniques or methods used, and 6) the results of such analyses.
- d. The permittee shall retain records to document implementation of the Nine Minimum Controls (NMC) and Long Term Control Plan (LTCP) requirements in Sections F. and G., and shall utilize this information when preparing and submitting progress reports required in Section D, including residential complaints, inspection records, maintenance records. This information shall be made available to the Department upon request.

C. REPORTING

1. CSO Reporting Requirements

- a. The permittee shall submit all required monitoring results to the Department on the forms provided by the Department. The Monitoring Report Forms (MRFs) may be provided to the permittee in either a paper format or in an electronic file format. Unless otherwise noted, all requirements below pertain to both paper and electronic formats.
- b. The permittee shall summarize the information for the total quantity of Solids/Floatables removed from CSO Outfall 004A on the MRF. This information only needs to be reported on the MRF when the Solids/Floatables solid waste is measured for disposal. For the months when no Solids/Floatables are disposed of, the permittee shall report 'NODI'.
- c. The permittee shall report Precipitation from a rain gauge representative of the area on the MRF for CSO Outfall 004A.
- d. The permittee shall report Duration of Discharge on the MRF for CSO Outfall 004A as a whole day for any calendar day when a discharge occurs.
- e. Any MRFs in paper format shall be submitted to the following addresses.

NJDEP
Mail Code - 401-02B
Division of Water Quality - Office of Permit Management
P.O. Box 420
Trenton, New Jersey 08625-0420

- f. Electronic data submissions shall be in accordance with the guidelines and provisions outlined in the Department's Electronic Data Interchange (EDI) agreement with the permittee. Paper copies must be available for on-site inspection by DEP personnel or provided to the DEP upon written request.
- g. All MRFs shall be certified by the highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility.
- h. The highest ranking official may delegate responsibility to certify the MRFs in his or her absence. Authorizations for other individuals to sign shall be made in accordance with N.J.A.C. 7:14A-4.9(b).
- i. Monitoring results shall be submitted in accordance with the current Monitoring Report Form Manual and any updates thereof.
- j. If there are no CSO discharges during an entire monitoring period, the permittee must notify the Department when submitting the monitoring results. This is accomplished by placing a check mark in the "No Discharge this Monitoring Period" box on the paper or electronic version of the monitoring report submittal form.

D. SUBMITTALS

1. CSO Submittal Requirements

- a. The permittee shall correct all deficiencies cited by the Department and submit a revised approvable document within 30 days of notification of the deficiencies by the Department.
- b. All reports submitted to the Department pursuant to the requirements of this permit shall comply with the signatory requirements of N.J.A.C. 7:14A-4.9., and contain the following certification.
 - i. "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information."
- c. Since multiple municipalities/permittees own separate portions of the hydraulically connected sewer system, the permittee shall work cooperatively with all other appropriate municipalities/permittees in the hydraulically connected sewer system to ensure that the NMC & LTCP activities are being developed and implemented consistently. The permittee shall identify their joint and separate responsibilities with all other appropriate municipalities/permittees in the hydraulically connected sewer system regarding implementation of the NMCs and LTCPs.

The permittee shall summarize its construction related activities, as well as those reported to them by the other permittees in their service communities, and notify all parties of any construction related activities in the hydraulically connected collection system on a quarterly basis. The permittee shall make these construction related activities available publically on their website.

- d. The permittee shall submit all information required by or related to this permit via email or other electronic format acceptable to the Department to NJCSOProgram@dep.state.nj.us and to the permittee's enforcement inspector. The Department cannot accept any file larger than 20 megabytes (MB). Any submission larger than that must be broken into files less than 20MB and sent separately.

2. Updated Nine Minimum Controls Submittal Requirements

- a. The permittee shall submit GPS latitude and longitude coordinates in degrees-minutes-seconds (at a minimum to the tenth of a second accuracy) for all CSO regulators and discharge outfall owned/operated by the permittee: on or before EDP + 4 months. This data shall be submitted in accordance with N.J.A.C. 7:1D-Appendix A, and NJ GIS protocol at <http://www.state.nj.us/dep/gis/standard.htm>.
- b. The permittee shall submit a PDF of a sewer map depicting the actual locations of the separate and combined sanitary sewers, storm sewers, CSO regulators and outfall owned/operated by the permittee: on or before EDP + 4 months. This map shall identify flow direction and manhole invert elevations.

- c. The permittee shall submit proof that a CSO Identification Sign was installed for the CSO: on or before EDP + 6 months, in accordance with Section F.8. The proof shall include all items listed below.
 - i. Photographs of both sides of sign installation area from the land and water sides.
 - ii. A chart listing the distance from the shoreline.
 - iii. The physical street address/location of the sign for the CSO.

3. Long Term Control Plan (LTCP) Submittal Requirements

- a. The Department encourages a single LTCP to be developed and submitted on behalf of all of the permittees in a hydraulically connected sewer system. If the STP and the hydraulically connected municipalities work cooperatively to develop and implement a single LTCP, the permittee may request an extension of time to the LTCP compliance due dates.
- b. The permittee shall develop an approvable LTCP that will include the elements contained in Section G. The LTCP shall consist of the following steps and be submitted according to the schedule below.
 - i. Step 1a – System Characterization Workplan for the LTCP - In accordance with Section G.1., the permittee shall submit an approvable system characterization workplan: on or before EDP + 3 months.
 - ii. Step 1b - In accordance with G.1., G.2. and G.3., the permittee shall submit the System Characterization Report, the Public Participation Process, and Consideration of Sensitive Areas of the LTCP: on or before EDP + 12 months.
 - iii. Step 2 - Development and Evaluation of Alternatives for the LTCP - In accordance with Sections G.2. through G.5. and G.9., the permittee shall submit an approvable Development and Evaluation of Alternatives Report on or before EDP + 24 months.
 - iv. Step 3 - Selection and Implementation of the LTCP: In accordance with Sections G.2. and G.6. through G.9., the permittee shall submit an approvable Selection and Implementation of Alternatives Report: on or before EDP + 36 months.
 - v. Upon Department approval of the LTCP, the permittee shall begin implementation of the LTCP in accordance with the schedule contained therein.
- c. In accordance with Section G.9., the permittee shall submit an approvable baseline Compliance Monitoring Program (CMP) work plan: on or before EDP + 3 months.
- d. In accordance with Section G.9. and the approved work plan, the permittee shall submit an approvable baseline CMP Report and data: on or before EDP + 12 months.

4. CSO Progress Report Submittal Requirements

- a. The permittee shall submit Progress Reports: within twenty-five (25) days after the end of every quarter beginning from the effective date of the permit (EDP).
- b. The Progress Reports shall be prepared in accordance with the following requirements.

- i. The Progress Reports shall follow the outline structure of the permit requirements in Sections F. and G.
- ii. The Progress Reports shall include a summary of all required information, CSO control measures implemented by the permittee to comply with the NMCs, a prioritized schedule for additional CSO control measures to be implemented, and the effectiveness of the implemented CSO control measures, pursuant to this permit for the previous calendar quarter. The first Progress Report shall include a summary of all CSO control measures implemented to date and the effectiveness of those control measures.
- iii. Each Progress Report must include a verification that the Operation and Maintenance Manual, including the SOPs, Asset Management Plan and Emergency Plan, have been updated in accordance with this permit and amended annually, as necessary.
- iv. Each Progress Report shall contain a detailed discussion of, and document compliance with, the continued implementation of the NMCs and the manner in which all owners/operators of the hydraulically connected collection system participated in the development of the LTCP, including information regarding the development and status of the telephone hotline/website pursuant to Section F.8.
- v. Upon Departmental approval of the LTCP, the permittee shall begin implementation of the CSO control measures in accordance with the schedule in the approved LTCP.

E. FACILITY MANAGEMENT

1. CSO Discharge Requirements

- a. The permittee shall discharge at the locations specified in PART III of this permit.
- b. The permittee shall not discharge foam or cause foaming of the receiving water that 1) forms objectionable deposits on the receiving water, 2) forms floating masses producing a nuisance, or 3) interferes with a designated use of the waterbody.
- c. The permittee's discharge shall not produce objectionable color or odor in the receiving stream.
- d. The permittee's discharges shall not exhibit a visible sheen.

2. Interstate Environmental Commission (IEC)

- a. The permittee shall comply with the Interstate Environmental Commission's (IEC) "Water Quality Regulations."

3. CSO Discharge Monitoring and Reporting Effective Dates

- a. Monitoring Report Form (MRF) Requirements.
 - i. The monitoring and reporting conditions contained in PART III apply for the full term of this permit action.

F. NINE MINIMUM CONTROL REQUIREMENTS

1. Proper Operation and Regular Maintenance Program Requirements

- a. The permittee shall continue to implement and update annually, an Operations & Maintenance (O&M) Program and corresponding Manual, including an Emergency Plan, in accordance with N.J.A.C. 7:14A-6.12, to ensure that the treatment works, including but not limited to collection system, the CSO outfall, solids/floatables facility, regulators, and related appurtenances which are owned/operated by the permittee are operated and maintained in a manner that achieves compliance with all terms and conditions of this permit.
- b. The permittee shall operate the treatment works using a licensed operator in accordance with N.J.S.A. 58:11-66(a), N.J.A.C. 7:14A-6.12(b) and N.J.A.C. 7:10A.
- c. The permittee shall provide adequate operator staffing for the treatment works.
- d. The permittee shall provide documentation that ensures that employees are properly trained to perform the operation and maintenance duties required and to follow the Standard Operating Procedures (SOPs) in the O&M Program and corresponding Manual. This shall include a current training program for the purpose of informing new employees and maintaining training levels for current employees in regards to the CSO O&M Program and corresponding Manual, including safety related concerns.
- e. The permittee shall implement an O&M Program & corresponding Manual that includes, at a minimum the following.
 - i. A directory of appropriate O&M staff, including a description of their individual responsibilities and emergency contact information.
 - ii. A description of the permittee's Fats, Oils and Grease (FOG) Program.
 - iii. An updated characterization of the entire collection system owned/operated by the permittee that conveys flows to the treatment works. The permittee may use previous studies to the extent that they are accurate and representative of a properly operated and maintained sewer system and of the currently required information.

This characterization shall include a spreadsheet (the spreadsheet shall be completed no later than at the time of the first quarterly Progress Report) of the capacity, dimensions, age, type of material, and specific location of:

- CSO outfall;
- Tide gate(s);
- Solids/Floatables control;
- Regulators;
- Catch basins;
- Gravity lines and force mains, including size, length and direction of flow;
- Manholes, including invert elevations of all gravity sewers inlets and outlets;
- Pump stations;
- Significant Indirect Users (SIUs); and

- Specific locations that have historically experienced the following: blockages, bottlenecks, flow constrictions, sewer overflows including to basements, streets and other public and private areas, overflows or related incidences.
- f. The permittee shall delineate the characterization information required in Section F.1.e.iii., on a GIS map, as applicable, pursuant to N.J.A.C. 7:1D-Appendix A and shall follow the NJ GIS protocol at <http://www.state.nj.us/dep/gis/standard.htm>. This map shall be completed on or before the first annual update of the O&M Program and Manual.
- g. The permittee shall review its rules, ordinances, and its sewer use agreements with its customer municipality (Town of Guttenberg) and revise them within 4 months of the EDP if necessary to require the Town of Guttenberg to:
 - i. operate and maintain their treatment works,
 - ii. identify Infiltration and Inflow (I/I) and reduce where appropriate, and
 - iii. identify and eliminate interconnections and cross-connections in storm sewers.
- h. The permittee shall also include Standard Operating Procedures (SOPs) in the O&M Program and corresponding Manual for the operation, inspections, and scheduled preventative maintenance in accordance with the appropriate manufacturer's recommendations and equipment manuals at a minimum, to ensure that the entire collection system that is owned/operated by the permittee that conveys flows to the treatment works will function properly. At a minimum the SOPs shall contain detailed instructions for system operations, such as frequency of inspections, regular maintenance, and the timely repair, and documentation of such information, of the entire collection system that conveys flows to the treatment works. These SOPs shall include procedures to:
 - i. Ensure that the entire collection system owned/operated by the permittee that conveys flows to the treatment works functions at all times in such a way as to not result in sewage overflows including to basements, streets and other public and private areas, or bottlenecks/constrictions that limit flow in specific areas and prevent the downstream STP treatment capacity from being fully utilized, in accordance with Section F.4.
 - ii. Ensure that the storage and conveyance of combined sewage to the STP is maximized in accordance with Sections F.2 and F.4.
 - iii. Ensure that the discharges from SIUs contributing to the CSOs are minimized to the greatest extent practicable in accordance Section F.3.
 - iv. Ensure there will be no dry weather overflows from the CSO in accordance with Section F.5.
 - v. Conduct a visual inspection program, of sufficient scope and frequency of the CSS, to provide reasonable assurance that unpermitted discharges, obstructions, damage, and DWOs will be discovered.
 - vi. Ensure the Solids/Floatables appurtenances will be maintained and the solids/floatables will be removed from the CSO discharge and disposed of properly at such frequency so as not to cause obstructions of flow for any future CSO discharges, in accordance with Part II of this permit and Section F.6.

- vii. Prevent the intrusion upstream of the regulator of receiving waters due to high tides and/or receiving water flooding into the entire collection system owned and operated by the permittee that conveys flows to the treatment works.
 - viii. Provide a gravity sewer and catch basin cleaning schedule.
 - ix. Provide a system for documenting, assessing, tracking, and addressing residential complaints regarding blockages, bottlenecks, flow constrictions, sewer overflows including to basements, streets and other public and private areas, or related incidents.
 - x. Remove within one (1) week of the permittee becoming aware, any obstructions due to debris, Fats, Oils and Greases, and sediment buildup, or other foreign materials in the collection system owned and operated by the permittee.
 - xi. Require immediate corrective action(s) to repair damage and/or structural deterioration, address unpermitted discharges, and eliminate DWOs of the entire collection system owned/operated by the permittee that conveys flows to the treatment works.
 - xii. Provide for ongoing infiltration and inflow (I/I) reduction strategies through the identification of I/I sources and the prioritization and implementation of I/I reduction projects.
 - xiii. Identify the equipment currently owned, operated and maintained for investigating and maintaining the CSS and, at a minimum, reference the appropriate equipment manuals.
 - xiv. Provide procedures whereby wet weather flows are maximized for conveyance to the STP and discharges from the CSO is minimized.
- i. The permittee shall incorporate an Asset Management Plan as part of the overall O&M strategy. This plan shall include an infrastructure inventory with infrastructure repair/replacement needs listed and scheduled according to priority/criticality, that ensures the entire collection system owned/operated by the permittee that conveys flows to the treatment works is perpetually and proactively managed with the appropriate resources (capital, staffing, training, supplies, equipment) allocated in the permittee's budget as prepared and submitted to Department of Community Affairs. The Asset Management Plan shall be completed no later than at the time of the first quarterly Progress Report.
 - j. The permittee shall also include in the O&M Program and corresponding Manual, an Emergency Plan, in accordance with N.J.A.C. 7:14A-6.12(d). The Emergency Plan shall provide for, to the maximum extent possible, uninterrupted treatment works operation during emergency conditions using in-house and/or contract based services. The Emergency Plan shall include Standard Operating Procedures (SOPs), which ensure the effective operation of the treatment works under emergency conditions, such as extreme weather events (including 100 and 500 year storm events) and extended periods of no power, (e.g., 7 days and 14 days).
 - k. The permittee shall amend the O&M Program & Manual no less frequent than annually to reflect updated information and changes in the characterization, design, construction, operations, maintenance, Emergency Plan, and SOPs as listed in Section F.1., and include verification that the O&M Program and corresponding Manual has been prepared and updated in accordance with the submittal requirements in Section D.4.

2. Maximum use of the collection system for storage

- a. The permittee shall use the entire collection system owned/operated by the permittee for in-line storage of sewage for future conveyance to the STP when sewer system flows subside by ensuring that the sewage is retained in the sewer system to the extent possible to minimize CSO discharges (volume, frequency and duration), while not creating or increasing sewage overflows, including to basements, streets and other public and private areas.
- b. The permittee shall minimize the introduction of sediment and obstructions in the entire collection system owned/operated by the permittee that conveys flows to the treatment works pursuant to Sections F.1. and F.7.
- c. The permittee shall operate and maintain the entire collection system owned/operated by the permittee that conveys flows to the treatment works pursuant to Section F.1.
- d. The permittee shall identify and implement minor modifications, based on the ongoing evaluations from the characterization required under Section F.1., to enable the entire collection system owned/operated by the permittee that conveys flows to the treatment works to store additional wet weather flows to reduce any sewage overflows until downstream sewers and treatment facilities can adequately convey and treat the flows.

3. Review and modification of pretreatment requirements to assure CSO impacts are minimized

- a. The permittee shall determine the locations and discharge nature of the Significant Indirect Users (SIUs) for the entire collection system which is owned/operated by the permittee; and shall determine and prioritize the potential environmental impact of the SIUs. The permittee shall include this information in the characterization portion of the O&M Program and corresponding Manual as required in Section F.1. This information shall be updated annually in the Progress Report in accordance with Section D.4.

4. Maximization of flow to the POTW for treatment

- a. The permittee shall operate and maintain the entire collection system owned/operated by the permittee that conveys flows to the treatment works and treatment plant to maximize the conveyance of wastewater to the STP for treatment.
- b. The permittee shall evaluate and implement low cost alternatives for increasing flow to the STP in accordance with i. and ii. below.
 - i. Capacity evaluations of the entire collection system owned/operated by the permittee that conveys flows to the treatment works in accordance with Section F.1.e.iii to determine the maximum amount of flow that can be stored and transported.
 - ii. Identification of other activities conducted and/or planned to further maximize flow to the POTW.

5. Prohibition of CSOs during dry weather

- a. Dry weather overflows (DWOs) are prohibited from the CSO outfall.

- b. All DWOs must be reported to the Department as incidents of non-compliance in accordance with the requirements at N.J.A.C. 7:14A-6.10(c) and (e), along with a description of the corrective actions taken.
- c. The permittee shall inspect the combined sewer system as required under Section F.1. to ensure there are no DWOs.
- d. The permittee shall prohibit any connections, including but not limited to construction dewatering, remediation activities or similar activities, downstream of a CSO regulator, that will convey flow to the CSO during dry weather. On a case-by-case basis, the Department reserves the right to allow temporary use of the CSO outfall structure for other types of discharges to address extraordinary circumstances. Any use under this provision must be specifically approved by the Department.

6. Control of Solids/Floatables in CSOs

- a. The permittee shall continue to implement measures to capture and remove Solids/Floatables which cannot pass through a bar screen having a bar or netting spacing of 0.5 inches from the CSO.
- b. Treatment, including mechanical measures used for particle size reduction of Solids/Floatables in the wastewater collection system prior to discharge to the waters of the state to achieve compliance with paragraph F.6.a. is not permitted.
- c. The captured debris shall be removed from the Solids/Floatables control system as necessary to ensure that there will be no flow restrictions during the next CSO discharge event.
- d. All captured debris removed from the Solids/Floatables control system must be disposed of properly at a permitted solid waste facility authorized to accept grit and screening materials from wastewater treatment facilities in accordance with N.J.A.C. 7:14A and Part II of this permit.

7. Implementation of Pollution Prevention Measures

- a. The permittee shall continue to implement and upgrade pollution prevention measures necessary to prevent and limit contaminants from entering the entire collection system owned/operated by the permittee that conveys flows to the treatment works. Unless demonstrated to the Department to be impracticable measures shall include, but not be limited to, the following:
 - i. Implementation of a regular street cleaning program.
 - ii. Retrofitting of existing storm drains to meet the standards in Appendix B, where such inlets are in direct contact with repaving, repairing (excluding repair of individual potholes), reconstruction, resurfacing (including top coating or chip sealing with asphalt emulsion or a thin base of hot bitumen) or alterations of facilities owned or operated by the municipality. For exemptions to this standard see "Exemptions" listed in Appendix B.
 - iii. Implementation of stormwater pollution prevention rules and ordinances.
 - iv. Implementation of solid waste collection, and recycling ordinances.
 - v. Implementation of public education programs.
 - vi. Enforcement of illegal dumping regulations.

vii. Revision as necessary of applicable rules, ordinances and sewer use agreements to address the reduction of inflow and infiltration (I/I) into the collection system where feasible.

8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts

- a. The permittee shall post a CSO Identification Sign at the CSO outfall location identified in Part III of this permit. The sign shall conform to the following specifications, unless alternatives have been approved by the Department. Any requests for such alternatives shall be submitted to the NJDEP within 30 days of EDP.
- i. The sign shall be installed in such a manner as to have the same information visible from both the land and from the water, within 100' from the outfall pipe along the shoreline.
 - ii. The sign shall be at least 18" x 24" and printed with reflective material.
 - iii. The sign shall be in compliance with applicable local ordinances.
 - iv. The sign shall depict the following information below.
 - Warning, possible sewage overflows during and following wet weather. Contact with water may also cause illness.
 - Report dry weather discharge to NJDEP Hotline at 1 (877) 927-6337 (WARN-DEP).
 - Report foul odors or unusual discoloration to NJDEP Hotline or North Bergen MUA at _____(phone no.)_____.
 - NJPDES Permit No. NJ0029084
 - Discharge Serial No. 004A
 - www.state.nj.us/dep/dwq/cso.htm
 - International Standards Organization symbols prohibiting swimming, fishing, and kayaking.
- b. The permittee shall submit to DEP the required proof the sign was installed in accordance with Section D.2.c.
- c. The permittee shall continue to employ measures to provide reasonable assurance that the affected public is informed of CSO discharges in a timely manner. These measures shall include, but are not limited to the below.
- i. Posting leaflets/flyers/signs with general information at affected use areas such as beaches, marinas, docks, fishing piers, boat ramps, parks and other public places (within 100 feet of outfall) to inform the public what CSOs are, the location of the CSO outfall and the frequency and nature of the discharges and precautions that should be undertaken for public health/safety and web sites where additional CSO/CSS information can be found.
 - ii. Notification to all residents by either US Postal Service or email, (with copies sent to the NJDEP at the address listed in C.1.e. or by email in D.1.d.) in the permittee's sewer service area providing additional information as to what efforts the permittee has made and plans to continue to undertake to reduce/eliminate the CSOs and related threat to public health. Updated notifications shall be mailed on an annual basis.

- iii. On or before EDP + 12 months, the permittee shall create and maintain on a daily basis a telephone hot line or website (using the same platform as NJDEP) for interested citizen inquiries to provide immediate/up-to-date information regarding when the CSO may be discharging.

9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls

- a. The permittee shall monitor the CSO discharge events and record the date, time, duration, rainfall, location of rain gauge and quantity of solids/floatables removed for the CSO and discharge event through appropriate modeling or by an appropriately placed flow meter/totaling device, level sensor, or other appropriate measuring device, and report the required information on the DMR as required by Part III of this permit.

G. LONG TERM CONTROL PLAN REQUIREMENTS:

1. Characterization, Monitoring and Modeling of the Combined Sewer System

- a. The permittee in coordination with the Town of Guttenberg, shall submit an updated characterization study as per D.3.a., that will result in a comprehensive characterization of the CSS developed through records review, monitoring, modeling and other means as appropriate to establish the existing baseline conditions, evaluate the efficacy of the CSO technology based controls, and determine the baseline conditions upon which the LTCP will be based. The characterization shall include a thorough review of the entire collection system that conveys flows to the treatment works, including areas of sewage overflows, including to basements, streets and other public and private areas, to adequately address the response of the CSS to various precipitation events; identify the number, location, frequency and characteristics of CSOs; and identify water quality impacts that result from CSOs. Ambient in-stream monitoring shall be performed in accordance with the guidance document entitled: *To Be Determined*.

The permittee may use previous studies to the extent that they are accurate and representative of a properly operated and maintained sewer system and of the currently required information, such as:

North Bergen MUA:

- North Bergen Municipal Utilities Authority CSO Characterization Study, Final Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated March 2005.
- North Bergen Municipal Utilities Authority CSO Characterization Study Group 2 – Dry Weather Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated June 2003.
- North Bergen Municipal Utilities Authority CSO Characterization Study Group 1 – Dry Weather Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated March 2003.
- Combined Sewer Overflow Characterization Study, Quality Assurance/Work Plan, for the North Bergen Municipal Utilities Authority, prepared by Hatch Mott MacDonald, dated November 2002.
- North Bergen Township Sewer Mapping and Flow Monitoring Study, prepared by Metcalf & Eddy, December 1992.

Town of Guttenberg:

- CSO Discharge Characterization Study, Monitoring Program proposal and Quality Assurance/Work Plan for the Town of Guttenberg, prepared by Killam, dated December 1996.

- CSO Characterization Study, Interim Service Area Drainage and Land Use Report for the Town of Guttenberg, prepared by Killam, dated November 1996.
- b. The major elements of the sewer system characterization are noted below.
- i. Rainfall Records--The permittee shall examine the rainfall record as per Section F.9., for the geographic area of its existing CSS using sound statistical procedures and best available data. The permittee shall evaluate flow variations in the receiving water body to correlate between CSOs and receiving water conditions.
 - ii. Combined Sewer System Characterization—the permittee shall evaluate sewer system records, field inspections gathered from the O&M Characterization required under Section F.1. (and other previous relevant studies), and other activities necessary to understand the number, location and frequency of overflows and their location relative to sensitive areas and to pollution sources in the collection system, such as SIUs.
 - iii. CSO Monitoring - Using all available information, including the information gathered from Section F.9., the permittee shall develop and/or update a previously existing, comprehensive, representative monitoring program that measures the frequency, duration, flow rate, volume and pollutant concentration of CSO discharges and assesses the impact of the CSOs on the receiving waters. The monitoring data summary may utilize existing data from previous studies, and must include necessary CSO effluent and ambient in-stream monitoring for pathogens (including current and recreational standards for bacteriological indicators (e.g., fecal coliform, Enterococcus and E. Coli)). This ambient baseline monitoring requirement may also satisfy the baseline monitoring requirement in Section G.9.
 - iv. Modeling – the permittee may employ NJDEP or EPA approved models, which include appropriate calibration and verification with field measurements, to aid in the characterization. If models are used they shall be identified by the permittee along with an explanation of why the model was selected and used in the characterization. The permittee should base its choice of a model on the characteristics of the entire collection system that conveys flows to the treatment works (including flows from other hydraulically connected municipal sewer systems), the number and location of overflow points, and the sensitivity of the receiving water body to the CSO discharges. The sophistication of the model should relate to the complexity of the system to be modeled and to the information needs associated with evaluation of CSO control options and water quality impacts. Because of the iterative nature of modeling sewer systems, CSOs, and their impacts, monitoring and modeling efforts are complementary and should be coordinated with other affected entities.
 - v. The permittee shall identify sensitive areas where CSOs occur. These areas include designated Outstanding National Resource Waters, National Marine Sanctuaries, waters with threatened or endangered species and their habitat, waters with primary contact recreation, bathing beaches, public drinking water intakes or their designated protection areas, and shellfish beds.

2. Public Participation Process

- a. The permittee shall submit a Public Participation Plan in accordance with D.3.a. The permittee may use information from the following previous submittals:

North Bergen MUA:

- North Bergen MUA Public Participation Report, prepared by Hatch Mott MacDonald, dated April 2007.

Town of Guttenberg:

- Town of Guttenberg Public Participation Report, prepared through the NJ CSO Group by Hatch Mott MacDonald, dated April 2007.

Implementation shall actively involve the affected public throughout each of the 3 Steps of the LTCP process. The affected public includes rate payers (including rate payers in the separate sewer sections), industrial users of the sewer system, persons who reside downstream from the CSOs, persons who use and enjoy the downstream waters, and any other interested persons.

- b. The permittee shall invite members of the affected/interested public to establish a supplemental CSO Team to work with the permittee's assigned staff from Section F.1.

3. Consideration of Sensitive Areas

- a. The permittee's LTCP shall give the highest priority to controlling overflows to sensitive areas in accordance with D.3.a. Sensitive areas include designated Outstanding National Resource Waters, National Marine Sanctuaries, waters with threatened or endangered species and their habitat, waters with primary contact recreation, bathing beaches, public drinking water intakes or their designated protection areas, and shellfish beds.
- b. The LTCP shall comply with the following requirements.
 - i. Prohibit new or significantly increased CSO overflows.
 - ii. Eliminate or relocate CSO overflows that discharge to sensitive areas wherever physically possible and economically achievable, except where elimination or relocation would provide less environmental protection than additional treatment.
 - iii. Where elimination or relocation is not physically possible and economically achievable, or would provide less environmental protection than additional treatment, provide the level of treatment for remaining CSO overflows deemed necessary to meet WQS for full protection of existing and designated uses.

4. Evaluation of Alternatives

- a. The permittee shall evaluate a range of CSO control alternatives, in accordance with D.3.a, that will provide for attainment of water quality standards using either the Presumption Approach or the Demonstration Approach (as described in Sections G.4.f. and G.4.g.).
- b. The permittee shall submit, as per Section D.3.b.iii., the Evaluation of Alternatives Report that will enable the permittee, in consultation with the Department, the public, owners and/or operators of the entire collection system that conveys flows to the treatment works, to select the alternatives to ensure the CSO controls will meet CWA requirements, ensure CSO discharges do not cause exceedances of any water quality criteria, will be protective of the existing and designated uses in accordance with N.J.A.C. 7:9B, give the highest priority to controlling CSOs to sensitive areas and address minimizing impacts from SIU discharges.

- c. The permittee shall select either Demonstrative or Presumptive Approach for each group of hydraulically connected CSOs, and identify each CSO group and its individual discharge locations.
- d. The Evaluation of Alternatives Report shall include a list of control alternative(s) evaluated for each CSO.
- e. The permittee shall evaluate a range of CSO control alternatives predicted to accomplish the requirements of the CWA. In its evaluation of each potential CSO control alternative, the permittee shall use NJDEP approved hydrologic, hydraulic and water quality models. The permittee shall utilize the models to simulate the existing conditions and conditions as they are expected to exist after construction and operation of the chosen alternative(s). The permittee shall evaluate the practical and technical feasibility of the proposed CSO control alternative, and water quality benefits of constructing and implementing various remedial controls and combination of such controls and activities which shall include, but not be limited to the controls below.
 - i. Green infrastructure (which allows for greater removal of load/flow per gallon captured).
 - ii. Increased storage capacity in the collection system.
 - iii. STP expansion and/or storage at the plant (an evaluation of the capacity of the unit processes must be conducted at the STP resulting in a determination of whether there is any additional treatment capacity available at the STP). Based upon this information, the permittee shall determine (modeling may be used) the amount of CSO discharge reduction that would be achieved by utilizing this additional treatment capacity while maintaining compliance with all permit limits.
 - iv. I/I reduction in the entire collection system that conveys flows to the treatment works to free up storage capacity or conveyance in the sewer system and/or treatment capacity at the STP, and feasibility of implementing in the entire system or portions thereof.
 - v. Sewer separation.
 - vi. CSO discharge treatment.
 - vii. CSO related bypass of the secondary treatment portion of the STP in accordance with N.J.A.C. 7:14A-11.12 Appendix C, II C.7.
- f. The "Presumption" Approach, in accordance with N.J.A.C 7:14A-11 Appendix C provides:

A program that meets any of the criteria listed below will be presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the Department determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas described above.

- i. No more than an average of four overflow events (see below) per year from a hydraulically connected system as the result of a precipitation event that does not receive the minimum treatment specified below. These four overflow events shall be calculated over a 60 month rolling average, provided that the Department may allow up to two additional overflow events per year. For the purpose of this criterion, an 'event' is:

- In a hydraulically connected system that contains only one CSO outfall, multiple periods of overflow are considered one overflow event if the time between periods of overflow is no more than 24 hours.
 - In a hydraulically connected system that contains more than one CSO outfall, multiple periods of overflow from one or more outfalls are considered one overflow event if the time between periods of overflow is no more than 24 hours without a discharge from any outfall.
- ii. The elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis.
- iii. The elimination or removal of no less than the mass of the pollutants, identified as causing water quality impairment through the sewer system characterization, monitoring, and modeling effort, for the volumes that would be eliminated or captured for treatment under Section G.4.f.ii.

Combined sewer overflow remaining after implementation of the NMCs and within the criteria specified in Section G.4.f.ii. and iii., shall receive minimum treatment in accordance with the items below.

- Primary clarification (Removal of floatables and settleable solids may be achieved by any combination of treatment technologies or methods that are shown to be equivalent to primary clarification.).
 - Solids and floatables disposal.
 - Disinfection of effluent, if necessary, to meet WQS, protect designated uses and protect human health, including removal of harmful disinfection chemical residuals, where necessary.
- g. The “Demonstration” Approach, in accordance with N.J.A.C. 7:14A-11 Appendix C provides.

A permittee may demonstrate that a selected control program, though not meeting the criteria specified under the Presumption Approach above, is adequate to meet the water quality-based requirements of the CWA.

The permittee must demonstrate each of the following below.

- i. The planned control program is adequate to meet WQS and protect designated uses, unless WQS or uses cannot be met as a result of natural background conditions or pollution sources other than CSOs.
- ii. The CSO discharges remaining after implementation of the planned control program will not preclude the attainment of WQS or the receiving waters' designated uses or contribute to their impairment.
- iii. The planned control program will provide the maximum pollution reduction benefits reasonably attainable.
- iv. The planned control program is designed to allow cost effective expansion or cost effective retrofitting if additional controls are subsequently determined to be necessary to meet WQS or designated uses.

5. Cost/Performance Considerations

- a. The permittee shall submit in accordance with the submittal requirements at Section D.3.a. and D.3.b.iii., the cost/performance considerations that demonstrate the relationships among proposed control alternatives that correspond to those required in accordance with Section G.4. This shall include an analysis to determine where the increment of pollution reduction achieved in the receiving water diminishes compared to the increased costs. If the permittee chooses to pursue the “Presumption Approach” of ‘no more than an average of four discharge events per year’, the permittee is not required to conduct this analysis for the other number of events (i.e. 0, 7, 10, 20). This analysis, often known as “knee of the curve”, shall be among the considerations used to help guide selection of controls.

In accordance with Section G.1.a., the permittee may use previous studies to the extent that they are accurate and representative of a properly operated and maintained sewer system and of the currently required information, such as:

North Bergen MUA:

- Cost & Performance Analysis Report for the North Bergen Municipal Utilities Authority, prepared by Boswell McClave Engineering in association with HydroQual Inc., dated March 2007.

Town of Guttenberg:

- Town of Guttenberg Cost and Performance Analysis, prepared by Schoor DePalma, Inc., in conjunction with HydroQual, Inc., dated March 30, 2007.

6. Operational Plan

- a. Upon Department approval of the final LTCP and throughout implementation of the approved LTCP as appropriate, the permittee shall modify the O&M Program and Manual, in accordance with D.3.a., to address the final LTCP CSO control facilities and operating strategies, including but not limited to, maintaining Green Infrastructure, staffing and budgeting, inflow/infiltration, and emergency plans.

7. Maximizing Treatment at the Existing STP

- a. The LTCP shall include the maximization of the removal of pollutants during and after each precipitation event at the STP, in accordance with D.3.a., ensuring that such flows receive treatment to the greatest extent practicable utilizing existing tankage for storage, while still meeting all permit limits.

8. Implementation Schedule

- a. The permittee shall submit a construction and financing schedule, in accordance with D.3.a., for implementation of NJDEP approved LTCP CSO controls. Such schedules may be phased based on the relative importance of the adverse impacts upon water quality standards, the permittee’s financial capability, and other water quality related infrastructure improvements, including those related to stormwater improvements that would be connected to CSO control measures.
- b. Upon Department approval of the LTCP, the permittee shall begin implementation of the LTCP in accordance with the schedule contained therein.

- c. In accordance with Section D.3.b.iv., the permittee shall submit an implementation schedule, including yearly milestones, which considers the below.
- i. Adequately addressing areas of sewage overflows, including to basements, streets and other public and private areas.
 - ii. CSO overflows that discharge to sensitive areas as the highest priority.
 - iii. Use impairment of the receiving water.
 - iv. The permittee's financial capability including consideration of such factors as below.
 - Median household income.
 - Total annual wastewater and CSO control costs per household as a percent of median household income.
 - Overall net debt as a percent of full market property value.
 - Property tax revenues as a percent of full market property value.
 - Property tax collection rate.
 - Unemployment.
 - Bond rating.
 - v. Grant and loan availability.
 - vi. Previous and current residential, commercial and industrial sewer user fees and rate structures.
 - vii. Other viable funding mechanisms and sources of financing.
 - viii. Resources necessary to design, construct and/or implement other water related infrastructure improvements as part of an overall asset management plan.

9. Compliance Monitoring Program (CMP)

The monitoring information collected from the baseline monitoring phase of the CMP, in accordance with D.3.a., will be compared to subsequent CMP events during and after LTCP implementation to evaluate the effectiveness of implemented CSO controls.

- a. The permittee shall implement a CMP, adequate to verify baseline and existing conditions, the effectiveness of CSO controls, compliance with water quality standards, and protection of designated uses. This CMP shall be conducted before, during and after implementation of the LTCP and shall include a work plan to be approved by the Department that details the monitoring protocols to be followed, including the following necessary monitoring below.
 - i. Ambient in-stream monitoring performed in accordance with the guidance document entitled: *To Be Determined*.
 - ii. Discharge frequency for the CSO (days/hours per month).
 - iii. Duration of each discharge (event) for the CSO (start and stop times for each calendar day).
 - iv. Quality of the flow discharged from the CSO, which shall include pathogen monitoring at a minimum.

- v. Rainfall monitoring in the vicinity of the CSO/municipality.
- vi. Characterization monitoring and modeling of the CSS in accordance with Section G.1.

The permittee may use previous studies to the extent that they are accurate and representative of a properly operated and maintained sewer system and of the currently required information, such as:

North Bergen MUA:

- North Bergen Municipal Utilities Authority CSO Characterization Study, Final Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated March 2005.
- North Bergen Municipal Utilities Authority CSO Characterization Study Group 2 – Dry Weather Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated June 2003.
- North Bergen Municipal Utilities Authority CSO Characterization Study Group 1 – Dry Weather Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated March 2003.
- Combined Sewer Overflow Characterization Study, Quality Assurance/Work Plan, for the North Bergen Municipal Utilities Authority, prepared by Hatch Mott MacDonald, dated November 2002.

Town of Guttenberg:

- CSO Discharge Characterization Study, Monitoring Program proposal and Quality Assurance/Work Plan for the Town of Guttenberg, prepared by Killam, dated December 1996.
 - CSO Characterization Study, Interim Service Area Drainage and Land Use Report for the Town of Guttenberg, prepared by Killam, dated November 1996.
- b. For the Demonstration Approach, the above monitoring must be ongoing every year upon LTCP approval to document trends in water quality due to CSO discharges. The results must be submitted in the Progress Reports required in Section D.4.
 - c. For the Presumption Approach, the above monitoring may be reduced, with prior Departmental approval, during construction/implementation of the CSO controls.

Masterfile #: 37627

PI #: 46705

RWBR Approval Status List

The permittee is only authorized to utilize RWBR for the specific category, type and location that has been approved in the table below.

RWBR Category	Specific RWBR Type	Location	Status
PA	Spray Irrigation (Golf Course)	None/Name and Location	Not Approved
PA	Spray Irrigation (Athletic Fields, Playgrounds)	None/Name and Location	Not Approved
PA	Spray Irrigation (Residential Lawns)	None/Name and Location	Not Approved
PA	Vehicle Washing	None/Name and Location	Not Approved
PA	Hydroseeding/Fertilizing	None/User Name	Not Approved
PA	Decorative Fountains	None/Name and Location	Not Approved
PA	Toilet Flushing	None/Name and Location	Not Approved
RA-LA	Sod Irrigation	None/Name and Location	Not Approved
RA-LA	Spray Irrigation within a fenced perimeter or otherwise restricted area	None/Name and Location	Not Approved
RA-LA	Spray Irrigation within a fenced perimeter or otherwise restricted area (Without NH3 + NO3)	None/Name and Location	Not Approved
RA-LA	Spray Irrigation (not fenced or restricted area)	None/Name and Location	Not Approved
RA-CM	Street Sweeping	None or MUA Sewer Service Area	Not Approved
RA-CM	Dust Control	None	Not Approved
RA-CM	Fire Protection	None	Not Approved
RA-CM	Vehicle Washing (at STP or DPW)	None/Name of MUA or DPW	Not Approved
RA-CM	Composting	None/Name and Location	Not Approved
RA-IS	Sanitary Sewer Jetting	MUA Sewer Service Area	Approved
RA-IS	Non-Contact Cooling Water	None/Name and Location	Not Approved
RA-IS	Boiler Makeup Water	None/Name and Location	Not Approved
RA-IS	Road Milling	None	Not Approved
RA-IS	Hydrostatic Testing	None/User Name	Not Approved
RA-IS	Parts Washing	None/Name and Location	Not Approved
RA-IS	STP Washdown	Name of MUA	Approved

Categories:

PA Public Access
RA-LA Restricted Access--Land Application and Non-Edible Crops
RA-CM Restricted Access--Construction and Maintenance Operations
RA-IS Restricted Access--Industrial Systems

Abbreviations:

NH3 - Ammonia
NO3 - Nitrate
STP - Sewage Treatment Plant
DPW - Dept. of Public Works

Annual Reuse Report - SAMPLE

Any facility that has received an RWBR authorization is required to submit an Annual Reuse Report. The following information, at a minimum, shall be included in the report, due on February 1st of each year.

- (1) The total wastewater reused (R) by the facility in the previous calendar year. If no wastewater was reused in the previous calendar year, report R as zero and skip to (6) below;
R = _____ gallons
- (2) The total wastewater discharged (D) by the facility in the previous calendar year;
D = _____ gallons
- (3) The percent of wastewater reused (%R) by the facility in the previous calendar year, calculated as follows:
%R = R/(R+D), expressed as a percent;
%R = _____ percent
- (4) The total wastewater that was reused for **each reuse type** in the previous calendar year. This information should be provided in the chart format utilized in the RWBR Usage Table below;

RWBR Usage Table

RWBR Category	Specific RWBR Type	Location	Flow (gallons)
	<i>For Example:</i>		
<i>RA-CM</i>	<i>Street Sweeping</i>	<i>Local Township</i>	<i>42,000</i>
<i>RA-IS</i>	<i>Sanitary Sewer Jetting</i>	<i>Facility Sewer Service Area</i>	<i>15,000</i>
<i>RA-IS</i>	<i>STP Washdown</i>	<i>Sewage Treatment Plant</i>	<i>43,000</i>
		<i>Grand Total (R)</i>	<i>100,000</i>

Attach additional pages as necessary.

- (5) An update to the correlation between Total Suspended Solids and Turbidity, if necessary;
Correlation = _____
- (6) Submit a completed copy of this form to:
For paper copies:
Mail Code 401 – 02B
Division of Water Quality
Bureau of Surface Water Permitting
P.O. Box 420
Trenton, NJ 08625-0420
For electronic copies:
ben.manhas@dep.state.nj.us

APPENDIX B

Design Standards for Storm Drain Inlets

Grates in pavement or other ground surfaces, such as roads (including bridges), driveways, parking areas, bikeways, plazas, sidewalks, lawns, fields, open channels and stormwater basin floors used to collect stormwater from the surface into a storm drain or surface water body, shall meet the following standards:

1. The New Jersey Department of Transportation (NJDOT) bicycle safe grate standards described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines (April 1996).
2. A grate where each individual clear space in that grate has an area of no more than seven (7.0) square inches, or is not greater than 0.5 inches across the smallest dimension.
3. For curb-openings inlets, including curb-opening inlets in combination inlets, the clear space in the curb opening, or each individual clear space if the curb opening has two or more clear spaces, shall have an area of no more than seven (7.0) square inches or be no greater than two (2.0) inches across the smallest dimension.

The following exemptions apply:

1. Where each individual clear space in the curb opening in existing curb-opening inlets do not have an area of more than nine (9.0) square inches.
2. Where the review agency determines that the standards would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets.
3. Where flows from the water quality design storm as specified in N.J.A.C. 7:8 are conveyed through any device (e.g., end of pipe netting facility, manufactured treatment device, or a catch basin hood) that is designed, at a minimum, to prevent delivery of all solid and floatable materials that could not pass through one of the following:
 - a. A rectangular space four and five-eighths inches long and one and one-half inches wide (this option does not apply for outfall netting facilities); or
 - b. A bar screen having a bar spacing of 0.5 inches.
4. Where flows are conveyed through a trash rack that has parallel bars with one inch (1") spacing between the bars, to the elevation of the water quality design storm as specified in N.J.A.C. 7:8.
 5. Where the Department determines, pursuant to the New Jersey Register of Historic Places Rules at N.J.A.C. 7:4-7.2(c), that action to meet the standard is an undertaking that constitutes an encroachment or will damage or destroy the New Jersey Register listed historic property.